Phytoplankton Primary Production, Chlorophyll and Suspended Carbon in the Experimental Lakes Area - 1980 Data

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by

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ABSTRACT

DeBruyn, E. R., and J. A. Shearer. 1981. Phytoplankton primary production, chlorophyll and suspended carbon in the Experimental Lakes Area - 1980 data. Can. Data Rep. Fish. Aquat. Sci. 260: iv + 52 p.

Incubator measurements of phytoplankton photosynthetic carbon uptake were conducted for thirteen lake basins in the Experimental Lakes Area. Analyses for chlorophyll and suspended carbon were also conducted in all thirteen lake basins. The methodology is briefly described and the resultant data are tabulated and graphically presented.

Key words: primary production; photosynthesis; phytoplankton; experimental data; incubation; biomass; chlorophylls; suspended matter.

RESUME

DeBruyn, E. R., and J. A. Shearer. 1981. Phytoplankton primary producation, chlorophyll and suspended carbon in the Experimental Lakes Area - 1980 data. Can. Data Rep. Fish. Aquat. Sci. 260: iv + 52 p.

Nous avons prélevé des échantillons dans treize lacs de la Région des Lacs Expérimentaux et avons mesuré en incubateur le carbone qu' absorbe le phytoplancton par photosynthèse. Nous avons aussi procédé à des analyses pour découvrir le taux de chlorophylle et de carbone en suspension dans les mèmes lacs. Les méthodes employées sont expliquées brièvement, et les résultats sont présentés sous la forme de tables et de graphiques.

Mots-clés: production primaire; photosynthèse; phytoplancton; données expérimentales; incubation; biomasse; chlorophylles; matière en suspension dans l'eau.

INTRODUCTION

Thirteen lake basins were routinely investigated for phytoplankton primary production in the Experimental Lakes Area (E.L.A.) in 1980. The incubator technique described in previous reports (DeClercq and Shearer 1976, 1978, 1979 and 1980; DeClercq et al. 1977; Shearer 1976; Shearer and Fee 1974) was again employed. Measurements of chlorophyll and suspended carbon concentrations were also conducted for each of the lake basins studied.

This report continues the updated methodology of the incubator technique described by DeClercq and Shearer (1980) and provides both a tabulated and a graphic display of the resulting data obtained for the 1980 study period. Irradiance versus carbon uptake data, chlorophyll and suspended carbon data are presented.

FIELD PROCEDURES

This primary production study was conducted in lake basins 114, 222, 223, 226NE, 226SW, 227, 239, 302N, 302S, 304, 382, 382 Bay and 661 at the Experimental Lakes Area (E.L.A.) (see Brunskill and Schindler 1971) during the ice-free season.

A forest fire burned through the watersheds of Lakes 239, 304 and 661 on June 20-22, 1980.

Lakes 226NE, 226SW and 227 were fertilized through 1980 (Schindler 1975; Schindler and Fee 1974). Lakes 114 and 223 were undergoing controlled acidification (Schindler et al. 1980). Lake basins 226SW and 226NE were separated by a reinforced plastic "sea curtain", as were Lakes 382 and 382 Bay. The two basins of L302 were observed separately although there was no curtain dividing them during this study. Fertilization of 302N ceased in 1978 and the curtain was removed in the spring of 1980.

Lakes were sampled in a similar manner to that described by DeClercq and Shearer (1978). An integrating sampler (Shearer 1978) was used to collect epilimnion, metalimnion and hypolimnion water from the euphotic zone of each basin routinely throughout the field season. Light attenuation measurements, taken concurrently, (Shearer and DeBruyn 1981) were used to determine the depth of the euphotic zone and for calculation of integral production rates (Fee 1973, 1977). Samples were returned to the laboratory in insulated containers.

LABORATORY PROCEDURES

No significant changes were made to the methodology, as described by DeClercq and Shearer (1980), for the processing of the field samples. Subsamples were retained for the determination of dissolved inorganic carbon (DIC), chlorophyll and suspended carbon concentrations (see Stainton et al. 1976). Chlorophyll *a* concentrations were determined using the fluorometric method with methanol extraction. Algal cell counts and species identifications were also conducted on subsamples of the incubator field samples.

Technical difficulties were encountered with the conductimetric method for DIC analyses (Stainton et al. 1976) and an alternate method was adopted. A gas stripping technique, employing an infra-red gas analyser (LIRA model 202), coupled to a variable span chart recorder, was used to determine DIC concentrations. This technique was used from late August to the end of the field season.

0.80 mL of approximately 12 μCi mL^{-1} $NaH^{14}CO_3$ stock solution was injected into each incubation sample. This radioactivity was standardized each day by a direct measurement method described by DeClercq and Shearer (1980). The acidification and bubbling method (Schindler et al. 1972) was used to process incubated samples. All liquid scintillation counting was done with a Beckman LS8000 counter using a dioxane-based fluor (Schindler 1966).

A spherical quantum sensor, Li-Cor model LI-193S, was used to measure scalar quantum irradiance in the incubation chambers. A Biospherical Instruments QSL 100 laboratory quantum scalar irradiance meter and sensor was also used through the latter part of the season to measure incubator irradiance. A comparison of the results from the two sensors shows a correlation of $r > 0.9$ in all four incubation chambers. The light readings presented in this report are only those obtained with the Li-Cor meter and sensor.

DATA PROCESSING AND PRESENTATION

Appendix 1 of this report tabulates physical, chemical and biological parameters collected in this study.

Appendix 2 of this report graphically presents the production versus irradiance data obtained from the incubator experiments.

ACKNOWLEDGMENTS

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APPENDIX 1

Data relevant to each sampling occasion are listed chronologically according to lake basin and time.

All depths are in meters.

Date stated is for date of sample collection and incubation. Time stated is Central Daylight time and is time of field sample collection.

Temperature is in degrees Celsius and designates the temperature at which incubation was carried out. Dissolved inorganic carbon (DIC) analysis was conducted on pre-incubation water subsamples. Units are micromoles liter^{-1} (for DIC) and micrograms liter^{-1} for suspended carbon and chlorophyll.

I1 through I4 are incubator irradiances in microeinsteins meter^{-2} sec^{-1}.

P1 through P4 represent rates of inorganic carbon uptake at the four incubator irradiances, in units of milligrams carbon meter^{-3} hour^{-1}. The two values at each irradiance represent replicate bottles. The coefficient of variation (C.V.) for the replicate bottles is given in the second-last column.

Explanation of Notes

Note 1: Production values are unusually erratic or differ from expected results and should be considered only with caution.

Note 2: Missing values are denoted with -10. The sample was either lost during the incubation process or not processed.

Lake 114

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
12 MAY	0.0- 4.0	1000	10.0	38	1060	2.3	13	.23 .25	43	1.12 1.13	158	3.76 3.59	790	3.83 3.57	3.16	
19 MAY	0.0- 1.5	1050	15.5	44	720	2.2	12	-.15 -.18	44	.68 .61	174	3.90 4.11	964	6.95 7.04	4.25	1
20 MAY	1.5- 4.0	0955	12.0	61	520	4.2	10	.30 .28	36	1.72 1.96	130	6.84 6.20	702	9.46 9.05	6.05	
9 JUN	0.0- 4.0	0900	17.0	24	1180	4.3	11	.04 .09	49	1.35 1.36	186	6.63 6.30	1020	8.41 7.42	17.08	
30 JUN	0.0- 4.0	1125	18.0	33	1840	4.7	10	.23 .26	37	2.43 1.95	142	12.66 13.87	854	19.96 21.04	9.11	
21 JUL	0.0- 4.0	1135	22.0	53	1390	5.8	11	.08 .29	41	2.85 2.43	155	11.88 6.38	895	18.41 14.38	38.49	1
4 AUG	0.0- 4.0	1140	21.5	57	1680	7.2	10	1.06 .99	34	2.81 2.96	125	14.55 11.06	716	15.87 20.64	11.62	
18 AUG	0.0- 4.0	1045	20.0	50	2240	15.0	10	.20 .55	34	4.52 4.20	127	19.30 25.74	681	42.91 41.72	23.23	
1 SEP	0.0- 4.0	1130	19.0	68	1210	5.8	11	.38 .60	38	3.04 3.26	143	11.31 10.96	742	8.01 14.05	19.69	
15 SEP	0.0- 4.0	1115	15.5	64	1150	4.3	11	.31 .30	37	1.59 1.71	141	7.85 6.49	718	7.13 10.70	12.20	
29 SEP	0.0- 4.0	1140	11.0	62	800	4.2	10	.24 .25	36	1.96 2.21	147	7.41 7.52	713	10.43 9.88	4.06	
13 OCT	0.0- 4.0	1200	8.0	59	1320	5.7	10	.21 .17	32	1.32 1.00	122	4.55 5.30	641	6.49 6.09	12.63	
28 OCT	0.0- 4.0	1000	4.0	75	940	2.5	7	.10 .05	23	.65 .71	86	2.05 2.68	459	2.65 2.68	19.42	

Lake 222

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
9 JUN	0.0- 2.0	0855	17.0	231	270	2.1	11	.08	49	.98	186	3.21	1020	3.98		
								.27		.15		3.65		3.92	48.14	
10 JUN	2.0- 4.5	0930	13.0	286	390	5.5	8	.06	30	1.47	102	7.01	555	6.11		
								.13		1.71		5.28		6.80	24.06	
21 JUL	0.0- 2.8	0915	22.0	221	360	2.0	11	.11	41	1.12	155	2.65	895	5.12		
								.24		.91		3.73		5.60	24.47	
22 JUL	2.8- 4.5	0935	16.0	459	600	3.3	8	-.33	24	2.03	88	6.23	430	10.51		
								.06		2.09		6.31		9.99	2.28	1
18 AUG	0.0- 3.3	0900	20.0	244	370	2.0	10	.08	34	1.63	127	5.81	681	7.30		
								.16		1.23		5.49		7.87	19.60	
19 AUG	3.3- 5.0	0850	17.0	471	690	7.5	7	.94	27	2.30	103	11.13	515	14.89		
								.49		2.79		14.05		18.94	22.97	
15 SEP	0.0- 5.0	0915	15.5	348	380	2.4	11	.50	37	1.54	141	5.54	718	6.33		
								.48		1.88		5.47		5.69	6.24	
13 OCT	0.0- 4.0	1100	8.0	293	410	4.1	10	.35	32	1.31	122	4.83	641	6.13		
								.29		1.32		5.17		5.88	5.16	

Lake 223

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
5 MAY	0.0- 1.8	1000	15.0	61	810	1.7	11	.04 .05	37	.62 .65	136	3.08 3.23	697	4.61 5.30	8.10	
6 MAY	1.8- 4.5	0820	8.5	83	950	3.1	10	-.05 .12	36	.84 .85	127	2.82 2.68	635	3.15 3.26	2.05	
7 MAY	4.5-12.0	0850	6.5	152	1000	6.1	7	.44 .44	23	1.86 1.78	83	5.49 5.10	414	5.80 5.43	3.56	
19 MAY	0.0- 3.3	0945	15.5	18	690	2.8	12	.25 .04	44	.90 .85	174	4.16 -10.00	964	5.29 5.71	36.73	2
20 MAY	3.3- 7.5	0900	12.0	30	110	7.6	10	.29 .29	36	1.78 2.00	130	5.57 5.16	702	7.57 7.82	3.98	
21 MAY	7.5-12.0	0915	8.0	164	580	18.6	6	.49 .62	21	3.15 2.94	84	10.95 9.99	433	11.93 11.71	7.14	
9 JUN	0.0- 4.5	0805	17.0	8	400	1.1	11	.04 .03	49	.24 .26	186	1.03 1.16	1020	1.64 1.63	7.29	
10 JUN	4.5- 8.5	0900	13.0	12	550	3.7	8	.11 .11	30	.56 .54	102	1.57 1.59	555	1.98 2.08	2.24	
11 JUN	8.5-12.0	0825	8.0	161	2150	25.1	6	.77 .85	21	4.66 5.14	59	14.53 14.26	393	16.10 15.53	4.37	
30 JUN	0.0- 6.3	1015	18.0	8	620	1.4	10	.04 .06	37	.34 .36	142	2.02 1.76	854	2.05 2.24	14.20	
1 JUL	6.3-10.0	0920	12.0	27	1210	4.2	7	.25 .47	25	1.44 1.48	98	3.95 4.00	526	4.51 4.17	13.06	
2 JUL	10.0-11.5	0830	8.0	281	3940	54.0	5	2.95 3.07	18	15.95 14.76	69	45.56 38.35	358	46.32 37.17	8.98	
21 JUL	0.0- 6.0	0825	22.0	14	390	1.5	11	.05 .06	41	.55 .57	155	2.34 2.34	895	3.26 3.05	6.66	
22 JUL	6.0-11.3	0900	16.0	160	1490	18.2	8	.59 .52	24	4.57 4.44	88	18.12 16.55	430	23.17 22.86	4.52	
4 AUG	0.0- 6.3	0810	21.5	14	450	1.7	10	.07 .05	34	.56 .58	125	3.04 2.94	716	4.10 4.26	10.28	
5 AUG	6.3-11.3	0930	17.0	225	1610	16.7	7	1.53 1.55	26	8.44 9.03	99	26.50 27.99	523	28.57 31.82	4.36	
6 AUG	0.0- 6.3	0830	21.0	10	-10	-10.0	9	.02 .04	32	.43 .40	124	1.94 2.30	718	3.44 3.43	19.06	2
18 AUG	0.0- 7.8	0810	20.0	19	560	2.4	10	.52 .29	34	1.84 1.78	127	6.54 6.76	681	8.81 7.95	12.89	
19 AUG	7.8-11.3	0815	17.0	203	1530	21.5	7	.91 1.33	27	5.76 6.34	103	18.67 20.95	515	23.08 21.68	11.53	
1 SEP	0.0- 8.0	0810	19.0	16	470	2.3	11	.16 .16	38	1.10 1.01	143	3.81 3.93	742	4.37 4.52	3.02	
2 SEP	8.0-11.3	0940	15.0	350	1330	12.9	8	2.11 1.82	26	7.08 7.57	100	18.68 16.36	513	17.27 18.82	7.64	
15 SEP	0.0-10.0	0840	15.5	29	420	2.5	11	.21 .16	37	1.09 1.25	141	3.93 3.90	718	5.70 5.72	7.94	
16 SEP	10.0-11.0	0825	15.0	194	1150	13.3	8	1.88 1.19	27	6.12 6.13	102	16.10 17.65	518	17.38 20.99	13.05	
29 SEP	0.0-11.3	0835	11.0	28	470	5.6	10	.19 .38	36	2.02 2.17	147	5.78 5.96	713	6.32 7.04	15.77	
13 OCT	0.0-12.0	1015	8.0	23	910	7.6	10	.49 .59	32	2.67 2.20	122	4.98 5.37	641	7.30 7.36	7.99	
28 OCT	0.0-12.0	0855	4.0	32	720	7.8	7	.77 .68	23	3.30 2.67	86	8.75 7.36	459	8.28 8.80	10.25	

Lake 226 NE

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
12 MAY	0.0- 4.0	0910	10.0	143	1430	11.7	13	.61 .55	43	3.63 3.83	158	10.85 12.17	790	13.06 14.85	7.25	
13 MAY	4.0- 5.0	0900	8.5	222	300	28.3	9	1.06 -.13	33	7.16 9.63	117	24.45 28.56	598	27.84 30.85	54.82	1
14 MAY	5.0- 7.5	0815	6.5	372	1310	28.0	6	1.96 -10.00	19	7.63 7.40	76	21.58 27.10	377	23.40 23.33	6.17	2
4 JUN	0.0- 2.5	0810	18.0	142	1300	5.5	11	.36 .46	41	3.32 3.43	170	14.60 15.64	967	21.28 23.05	7.31	
5 JUN	2.5- 7.0	0815	12.5	205	1670	30.5	8	1.80 1.92	29	12.21 10.17	111	27.27 29.99	601	31.46 31.64	6.11	
16 JUN	0.0- 3.0	0845	18.0	149	1790	12.8	11	.91 .92	39	7.60 4.68	156	26.42 28.55	868	30.43 29.56	10.44	
17 JUN	3.0- 6.5	0820	12.0	183	2190	39.4	10	3.79 4.55	36	18.53 17.22	128	30.54 33.34	628	30.16 31.65	6.91	
7 JUL	0.0- 3.3	0825	20.0	86	2530	21.8	10	1.04 1.66	37	3.78 4.79	146	33.15 -10.00	849	28.17 36.57	22.50	2
8 JUL	3.3- 5.0	0815	13.0	141	3020	26.2	7	4.03 4.28	25	16.75 14.68	89	34.37 31.39	446	34.20 38.73	7.19	
28 JUL	0.0- 3.0	1005	22.0	71	2660	22.6	9	1.38 .91	34	10.69 11.30	135	56.65 53.38	756	54.59 67.05	12.94	
29 JUL	3.0- 5.0	0935	16.0	252	2320	57.5	7	8.04 7.39	26	33.85 31.12	98	90.78 88.91	537	107.93 107.93	3.35	
11 AUG	0.0- 4.0	0815	21.0	142	2320	22.6	11	2.12 .86	37	11.43 11.01	139	34.53 28.22	726	33.48 32.20	19.85	
12 AUG	4.0- 5.0	0825	15.0	325	1860	30.6	8	5.77 6.18	26	20.63 18.68	99	57.84 50.50	489	65.44 60.76	6.67	
25 AUG	0.0- 4.0	0940	21.0	183	2430	18.0	11	1.35 1.35	36	8.32 8.72	140	28.78 30.34	716	41.34 35.73	4.44	
26 AUG	4.0- 5.0	0900	15.0	340	1030	18.7	8	2.95 2.79	27	10.21 10.00	101	27.73 27.62	499	32.04 32.75	1.79	
8 SEP	0.0- 4.5	0850	19.0	226	1430	11.3	10	.87 .96	36	5.70 6.37	141	26.39 25.34	734	31.33 35.96	6.88	
9 SEP	4.5- 6.0	0835	14.0	418	1510	24.2	8	3.33 3.59	26	11.03 12.32	98	32.83 32.88	507	40.12 36.10	5.17	
22 SEP	0.0- 6.0	1100	12.0	241	1130	13.7	10	1.49 1.80	35	8.23 8.31	132	22.63 23.42	673	31.17 29.11	5.33	
7 OCT	0.0- 7.0	0900	10.0	250	1000	10.6	9	.35 1.35	31	5.79 6.01	121	14.03 12.64	649	18.81 17.17	24.80	
20 OCT	0.0- 7.0	1040	7.5	286	940	11.6	10	.82 1.16	32	4.79 6.04	121	11.11 11.91	628	16.46 15.55	12.27	

Lake 226 SW

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
12 MAY	0.0- 4.0	0830	10.0	163	100	6.1	13	.47 .47	43	2.61 2.42	158	7.50 8.04	790	8.55 8.77	3.21	
13 MAY	4.0- 5.5	0845	8.5	304	1100	10.2	9	.57 .19	33	3.33 1.76	117	9.02 9.01	598	9.48 9.87	29.37	
14 MAY	5.5- 8.0	0805	6.5	346	750	9.9	6	.66 .57	19	2.26 2.52	76	6.36 6.73	377	7.42 6.19	8.56	
4 JUN	0.0- 2.5	0755	18.0	157	720	4.1	11	.13 .10	41	1.35 1.68	170	6.35 6.02	967	5.20 6.26	13.29	
5 JUN	2.5- 6.0	0800	12.5	200	970	10.2	8	.56 .50	29	3.48 3.37	111	12.15 12.97	601	14.92 15.14	4.12	
6 JUN	6.0- 8.5	0650	7.5	392	1180	16.1	4	.55 .66	17	3.77 3.72	70	10.23 11.68	379	12.86 11.58	7.77	
16 JUN	0.0- 3.0	0825	18.0	151	1070	6.7	11	.30 .21	39	1.99 2.23	156	7.33 7.63	868	8.98 8.15	10.23	
17 JUN	3.0- 6.5	0810	12.0	221	1400	13.7	10	1.40 1.33	36	6.35 6.60	128	15.42 15.51	628	15.71 15.17	2.34	
18 JUN	6.5- 7.5	0800	8.0	502	1850	38.2	6	3.22 2.88	22	12.27 11.89	83	28.32 31.29	422	30.32 31.33	4.87	
7 JUL	0.0- 3.8	0815	20.0	162	1230	3.8	10	.28 .25	37	2.18 2.07	146	7.70 7.20	849	8.59 8.72	4.23	
8 JUL	3.8- 8.0	0805	13.0	266	1720	25.6	7	1.78 1.66	25	8.37 8.19	89	19.70 19.13	446	21.56 20.76	2.72	
28 JUL	0.0- 3.5	1000	22.0	169	1190	5.9	9	.37 .25	34	3.19 3.10	135	13.39 12.82	756	20.26 20.91	8.54	
29 JUL	3.5- 7.8	0925	16.0	348	1280	22.6	7	2.83 2.83	26	13.31 12.99	98	34.41 35.33	537	42.37 46.54	2.59	
11 AUG	0.0- 4.0	0805	21.0	132	1270	8.8	11	.86 .74	37	5.51 5.47	139	18.80 19.60	726	19.91 23.40	6.22	
12 AUG	4.0- 7.0	0815	15.0	218	1290	19.0	8	1.89 1.77	26	8.05 9.04	99	22.87 23.02	489	21.68 22.88	4.23	
25 AUG	0.0- 4.5	0925	21.0	124	1630	8.3	11	1.09 .85	36	7.55 7.84	140	16.66 21.30	716	29.57 22.74	13.86	
26 AUG	4.5- 7.0	0850	15.0	231	1310	20.6	8	2.26 2.31	27	8.77 9.49	101	19.56 20.06	499	18.99 19.24	2.46	
8 SEP	0.0- 5.0	0850	19.0	182	1400	6.4	10	.78 .71	36	4.03 6.15	141	11.85 12.99	734	14.14 15.58	12.48	
9 SEP	5.0- 7.3	0825	14.0	375	1170	16.6	8	1.69 1.78	26	6.59 7.09	98	17.52 18.12	507	17.82 18.05	2.98	
22 SEP	0.0- 7.3	1040	12.0	232	1300	12.9	10	1.82 1.98	35	7.31 7.53	132	15.53 15.10	673	16.22 15.15	3.72	
7 OCT	0.0- 7.0	0845	10.0	236	1340	9.1	9	1.59 1.50	31	3.93 6.22	121	13.44 14.11	649	14.34 13.62	10.79	
20 OCT	0.0- 7.0	1020	7.5	281	920	8.3	10	1.64 1.49	32	5.22 5.37	121	9.84 10.57	628	11.59 11.03	4.41	

Lake 227

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
5 MAY	0.0- 1.0	0830	15.0	200	2970	18.9	11	2.93 3.03	37	14.70 14.23	136	33.93 32.21	697	36.04 37.78	2.89	
6 MAY	1.0- 4.0	0820	8.5	388	3780	35.1	10	6.39 6.18	36	21.61 21.65	127	40.30 40.33	635	42.86 42.51	.79	
19 MAY	0.0- 1.0	0935	15.5	111	2080	31.4	12	7.05 2.06	44	16.49 15.83	174	42.18 43.11	964	49.30 51.11	21.09	
20 MAY	1.0- 3.5	0810	12.0	153	3970	50.4	10	6.40 -10.00	36	23.01 22.65	130	79.45 -10.00	702	42.80 38.89	3.95	1,2
9 JUN	0.0- 2.0	0955	17.0	35	2560	44.9	11	3.77 3.56	49	21.77 23.52	186	50.70 52.13	1020	54.40 51.59	3.81	
10 JUN	2.0- 3.0	0750	13.0	26	-10	14.7	8	10.82 11.20	30	39.54 43.49	102	57.46 62.62	555	64.41 73.41	6.11	2
30 JUN	0.0- 2.3	1015	18.0	25	3550	54.5	10	8.29 8.76	37	49.83 40.15	142	114.91 113.22	854	124.58 111.58	6.99	
21 JUL	0.0- 1.5	1025	22.0	46	4820	63.5	11	7.17 7.02	41	57.70 48.61	155	198.82 201.54	894	285.57 288.11	3.80	
22 JUL	1.5- 2.3	0805	16.0	68	6220	54.6	8	12.33 12.03	24	53.14 51.22	88	141.83 149.93	430	204.97 213.10	2.76	
4 AUG	0.0- 1.8	1045	21.5	45	7860	23.8	10	4.40 4.33	34	27.14 35.87	125	136.77 145.66	716	206.68 209.29	6.54	
5 AUG	1.8- 2.3	0800	17.0	50	3460	41.5	7	8.90 8.36	26	40.55 37.93	99	119.43 114.31	523	158.82 158.21	3.13	
18 AUG	0.0- 2.5	0955	20.0	55	8860	32.2	10	8.43 8.58	34	47.21 49.77	127	178.93 179.21	681	262.98 232.01	3.48	
1 SEP	0.0- 2.5	1030	19.0	47	8080	69.0	11	7.91 8.16	38	52.93 55.38	143	187.13 196.82	742	260.29 261.62	2.34	
15 SEP	0.0- 2.5	1020	15.5	73	9760	83.5	11	12.20 9.21	37	59.61 58.43	141	162.95 177.98	718	218.38 217.03	6.95	
29 SEP	0.0- 2.5	1040	11.0	126	10600	91.0	10	12.13 14.07	36	58.31 53.79	147	136.32 137.52	713	155.82 163.30	5.03	
13 OCT	0.0- 2.5	0855	8.0	272	8120	80.5	10	16.79 16.64	32	48.20 55.18	122	100.29 103.22	641	117.55 109.11	4.36	
27 OCT	0.0- 2.8	1105	5.0	430	6260	56.5	6	7.16 7.11	21	26.32 27.76	85	52.31 59.28	462	59.58 59.72	3.31	

Lake 239

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
5 MAY	0.0- 2.0	0930	15.0	166	650	2.4	11	.07	37	.71	136	3.93	697	4.51		
								.04		.79		3.50		5.15	15.83	
6 MAY	2.0- 4.5	0900	8.5	173	930	5.3	10	.37	36	1.86	127	5.05	635	5.04		
								.33		1.86		5.01		4.86	2.97	
7 MAY	4.5- 7.5	0900	6.5	210	440	2.9	7	-10.00	23	.81	83	-10.00	414	2.10		
								.21		.82		2.07		2.14	1.08	2
4 JUN	0.0- 3.5	0900	18.0	120	440	1.7	11	.08	41	.57	170	2.66	967	3.20		
								.11		.56		2.58		3.22	7.17	
5 JUN	3.5- 7.5	0855	12.5	171	590	6.3	8	.31	29	2.32	111	6.64	601	7.24		
								.31		2.29		6.75		7.87	2.16	
16 JUN	0.0- 4.5	0915	18.0	132	540	1.8	11	.11	39	.79	156	2.62	868	2.42		
								.11		.72		2.68		2.83	5.06	
17 JUN	4.5- 7.5	0945	12.0	225	820	9.6	10	1.16	36	4.33	128	9.91	628	9.29		
								.98		4.22		10.25		6.69	9.87	
7 JUL	0.0- 4.5	0905	20.0	135	620	1.5	10	.11	37	.86	146	2.90	849	3.72		
								.07		.83		3.18		3.00	12.49	
8 JUL	4.5- 8.0	0855	13.0	200	820	10.0	7	.73	25	3.60	89	9.11	446	8.53		
								.81		3.17		8.49		8.86	5.80	
28 JUL	0.0- 4.5	1000	22.0	150	850	1.5	9	.36	34	.93	135	4.66	756	7.52		
								.32		1.19		4.43		6.23	10.65	
29 JUL	4.5- 8.0	1005	16.0	348	610	7.8	7	1.62	26	5.70	98	15.83	537	17.76		
								.92		5.87		15.45		16.94	11.46	
6 AUG	0.0- 4.5	0845	21.0	150	580	2.4	9	.06	32	1.31	124	5.03	718	6.76		
								.22		1.32		4.77		6.27	21.90	
11 AUG	0.0- 5.0	0845	21.0	147	590	2.2	11	.40	37	1.63	139	5.29	726	6.55		
								.29		1.46		4.78		6.78	9.72	
12 AUG	5.0- 7.0	0905	15.0	2[illegible]	770	7.9	8	1.08	26	3.99	99	11.88	489	12.25		
								1.14		4.14		11.55		11.23	3.57	
25 AUG	0.0- 5.0	1045	21.0	154	410	1.7	11	.25	36	1.20	140	4.43	716	4.71		
								.22		1.10		4.35		5.27	6.09	
26 AUG	5.0- 8.0	0935	15.0	245	260	4.5	8	.70	27	2.68	101	6.75	499	8.55		
								.67		2.70		6.93		7.99	2.41	
8 SEP	0.0- 5.0	0915	19.0	148	380	2.2	10	.27	36	1.41	141	4.69	734	5.99		
								.23		1.14		4.94		5.01	10.68	
9 SEP	5.0- 8.0	1000	14.0	297	540	3.7	8	.64	26	2.42	98	6.52	507	6.98		
								.62		2.12		6.24		7.08	3.76	
22 SEP	0.0- 7.5	0940	12.0	163	460	3.6	10	.25	35	2.26	132	6.52	673	8.74		
								.52		2.28		6.61		7.91	14.89	
24 SEP	0.0- 8.0	0930	12.0	162	-10	-10.0	11	.36	37	2.20	140	5.71	710	8.40		
								.35		2.20		6.07		6.94	5.26	2
7 OCT	0.0- 7.5	0900	10.0	192	540	3.9	9	.82	31	2.57	121	7.29	649	8.17		
								.47		1.50		6.03		7.55	23.66	
20 OCT	0.0- 7.5	0945	7.5	176	400	4.0	10	.81	32	2.55	121	5.92	628	6.90		
								.82		2.28		5.16		6.29	6.19	
28 OCT	0.0- 8.5	0920	4.0	210	480	3.4	7	.29	23	1.29	86	3.64	459	3.68		
								.30		1.42		3.48		4.12	4.60	

Lake 302 N

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
4 JUN	0.0- 3.0	0900	18.0	42	550	2.5	11	.04 .09	41	1.26 .97	170	4.25 4.07	967	5.91 6.01	20.31	
5 JUN	3.0- 6.0	0850	12.5	73	550	5.3	8	.51 .58	29	2.63 2.62	111	7.02 7.09	601	8.13 10.48	6.96	
6 JUN	6.0- 8.0	0610	7.5	203	290	21.0	4	1.18 1.24	17	5.78 5.79	70	15.49 15.91	379	14.46 13.67	2.34	
16 JUN	0.0- 3.8	0940	18.0	49	740	2.6	11	.12 .06	39	1.06 1.07	156	3.62 5.26	868	5.71 6.32	21.07	
17 JUN	3.8- 7.0	0855	12.0	124	1250	8.4	10	.81 .70	36	3.46 3.04	128	10.29 9.59	628	10.93 9.12	9.32	
18 JUN	7.0- 8.5	0850	8.0	353	353	12.9	6	1.19 1.11	22	3.83 3.81	83	8.94 8.81	422	8.32 8.76	2.50	
28 JUL	0.0- 4.0	0835	22.0	45	850	2.1	9	.08 .13	34	.63 .63	135	3.11 2.94	756	4.82 4.13	11.92	
29 JUL	4.0- 8.0	0810	16.0	263	690	4.8	7	.54 .21	26	.71 1.96	98	8.12 8.00	537	11.52 11.92	33.33	
25 AUG	0.0- 5.0	0820	21.0	67	740	3.3	11	.27 .29	36	1.82 2.04	140	6.52 7.32	716	9.86 10.32	5.97	
26 AUG	5.0- 8.0	0805	15.0	266	910	9.6	8	.93 .50	27	2.79 2.70	101	10.98 10.21	499	7.94 12.48	20.24	1
22 SEP	0.0- 8.0	0850	12.0	102	670	5.8	10	.17 .69	35	2.20 2.61	132	7.35 8.02	673	9.12 8.05	28.29	
20 OCT	0.0- 8.3	0900	7.5	96	670	7.6	10	1.09 .93	32	3.78 3.84	121	9.53 9.98	628	13.37 13.13	4.16	

Lake 302 S

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
4 JUN	0.0- 3.0	0920	18.0	64	510	1.6	11	.07 .06	41	.58 -10.00	170	2.71 2.95	967	3.78 4.74	9.81	2
5 JUN	3.0- 6.5	0930	12.5	108	920	4.7	8	.05 .07	29	1.50 1.77	111	6.60 12.70	601	7.45 8.24	21.82	
6 JUN	6.5- 9.0	0620	7.5	293	400	13.1	4	.40 .34	17	2.11 1.79	70	8.22 8.79	379	7.86 8.75	8.85	
16 JUN	0.0- 4.0	1000	18.0	67	710	2.0	11	.07 .20	39	.83 .86	156	3.49 3.56	868	4.41 4.60	18.33	
17 JUN	4.0- 8.0	0905	12.0	167	1600	9.7	10	.64 .75	36	3.56 4.24	128	11.27 13.20	628	13.67 11.46	11.73	
18 JUN	8.0- 8.5	0910	8.0	498	2260	24.9	6	1.89 1.78	22	6.28 5.93	83	15.75 13.60	422	16.03 15.74	4.95	
28 JUL	0.0- 4.5	0855	22.0	76	700	2.0	9	.07 .12	34	.73 .93	135	4.32 3.79	756	6.95 7.22	16.67	
29 JUL	4.5- 8.0	0830	16.0	329	990	5.2	7	1.12 .90	26	4.77 3.15	98	16.37 14.26	537	21.42 22.09	13.92	
25 AUG	0.0- 6.0	0845	21.0	82	880	4.0	11	.31 .41	36	2.02 1.86	140	6.77 7.26	716	9.63 9.09	8.71	
26 AUG	6.0- 8.0	0815	15.0	290	710	13.5	8	1.02 .72	27	3.52 3.36	101	9.49 10.08	499	9.99 12.22	11.61	
22 SEP	0.0- 8.0	0900	12.0	97	650	4.9	10	.48 .60	35	2.51 2.88	132	7.54 6.94	673	9.82 9.59	8.23	
20 OCT	0.0- 9.0	0920	7.5	79	770	8.1	10	.92 .82	32	4.27 3.28	121	9.10 10.10	628	10.02 11.35	10.74	

Lake 304

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOF	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
7 JUL	0.0- 2.0	1015	20.0	135	1460	4.6	10	.21 .25	37	1.58 1.53	146	4.73 9.58	849	14.49 12.91	18.13	
8 JUL	2.0- 4.5	0940	13.0	244	2260	18.2	7	1.91 2.09	25	8.61 9.59	89	27.53 26.17	446	28.87 28.46	4.69	
11 AUG	0.0- 3.0	0930	21.0	157	750	4.1	11	.28 .53	37	2.18 2.11	139	9.15 8.72	726	14.55 13.85	13.36	
12 AUG	3.0- 4.5	0930	15.0	334	1730	23.2	8	2.15 2.05	26	10.00 9.76	99	29.69 28.71	489	32.31 30.66	2.78	
8 SEP	0.0- 3.0	1045	19.0	304	630	4.0	10	.61 .58	36	4.21 4.45	141	19.54 18.96	734	25.31 25.63	2.66	
9 SEP	3.0- 4.5	0935	14.0	299	950	20.0	8	1.90 1.75	26	7.28 6.84	98	20.99 20.48	507	22.66 21.44	3.95	
7 OCT	0.0- 4.0	1005	10.0	250	650	4.0	9	.55 .49	31	2.28 1.86	121	6.72 7.30	649	8.37 7.97	7.96	

Lake 382

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
19 MAY	0.0- 2.0	0835	15.5	97	460	2.0	12	.05 .07	44	.68 .66	174	2.93 2.79	964	4.03 4.30	7.27	
20 MAY	2.0- 4.5	1000	12.0	119	410	2.0	10	.83 .10	36	.71 .67	130	2.86 2.96	702	4.03 3.69	30.89	
21 MAY	4.5- 8.5	0820	8.0	73	1150	4.8	6	.08 .07	21	.20 .47	84	1.66 1.73	433	2.06 2.22	17.36	
30 JUN	0.0- 4.5	0905	18.0	80	1580	2.6	10	.22 .25	37	1.33 1.17	142	4.84 4.80	854	6.00 4.19	10.87	
1 JUL	4.5- 8.5	0815	12.0	176	1400	8.7	7	.86 .91	25	5.47 5.19	98	14.88 16.14	526	14.10 15.07	4.65	
4 AUG	0.0- 5.3	0940	21.5	79	730	3.6	10	.08 .30	34	.71 1.66	125	4.22 3.99	716	7.15 5.55	40.11	
5 AUG	5.3- 9.0	0835	17.0	325	950	4.9	7	.38 .62	26	2.52 2.47	99	8.78 8.31	523	12.50 12.97	10.36	
1 SEP	0.0- 5.8	0930	19.0	98	540	2.8	11	.36 .36	38	1.89 1.74	143	6.14 6.50	742	8.46 7.42	4.81	
2 SEP	5.8- 8.8	0840	15.0	361	800	4.6	8	.80 .92	26	2.69 2.86	100	6.83 6.67	513	9.69 10.55	5.41	
29 SEP	0.0- 8.3	0935	11.0	111	600	3.4	10	.47 .50	36	2.26 1.79	147	5.81 5.68	713	5.85 7.49	10.01	
27 OCT	0.0- 9.5	0940	5.0	119	700	1.9	6	.24 1.03	21	.92 .85	85	2.55 2.60	462	2.64 2.95	25.70	

Lake 382 Bay

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
19 MAY	0.0- 2.0	0900	15.5	105	820	3.0	12	.23 2.03	44	1.15 1.16	174	5.56 6.17	964	8.61 8.07	31.38	
30 JUN	0.0- 3.0	0925	18.0	73	1210	3.1	10	.20 .26	37	1.73 1.70	142	6.97 7.51	854	5.17 10.61	17.85	
4 AUG	0.0- 3.0	0955	21.5	79	1250	3.8	10	.24 .26	34	1.75 1.76	125	9.13 8.93	716	20.04 18.68	2.63	
1 SEP	0.0- 3.0	0950	19.0	101	1090	3.8	11	.43 .47	38	3.17 3.17	143	13.15 12.97	742	18.63 17.14	3.35	
29 SEP	0.0- 3.0	0945	11.0	107	890	3.1	10	.42 .54	36	1.41 1.88	147	6.79 6.00	713	9.16 7.13	16.33	
27 OCT	0.0- 3.0	0955	5.0	149	710	2.6	6	.11 .11	21	.77 .70	85	3.12 2.96	462	3.42 3.36	2.80	

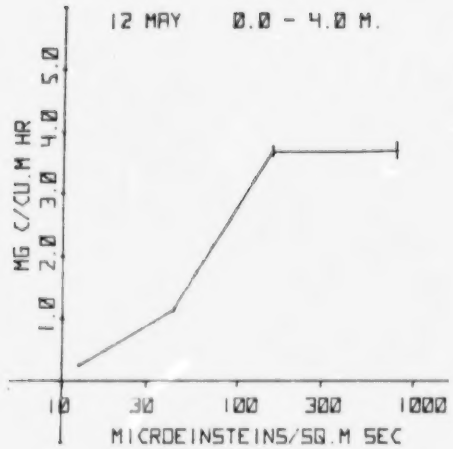
Lake 661

DATE	DEPTH	TIME	TEMP	DIC	SUSP-C	CHLOR	I4	P4	I3	P3	I2	P2	I1	P1	C.V.(%)	NOTE
9 JUN	.5	0905	17.0	52	1270	5.4	11	.25	49	1.82	187	5.53	1020	17.44		
								.18		1.55		6.36		8.34	23.60	
28 JUL	.5	0845	22.0	75	1350	6.7	9	.20	34	1.10	135	3.22	756	7.07		
								.14		.98		4.12		9.23	17.80	
25 AUG	.5	0925	21.0	109	870	3.1	11	.04	36	1.41	140	8.06	716	18.86		
								.29		1.37		7.85		18.97	28.53	
22 SEP	.5	0900	12.0	94	650	2.2	10	.11	35	.80	132	2.99	673	5.79		
								.14		.81		3.08		6.68	8.56	
27 OCT	.5	0930	5.0	106	730	2.4	6	-.04	21	.27	85	1.08	462	2.29		
								-.02		.07		1.60		1.51	45.92	

APPENDIX 2

Plots of photosynthetic carbon uptake versus incubator irradiance are arranged chronologically according to lake basin. Irradiance is plotted on a logarithmic scale, production on a linear scale. The vertical bars of the plot join the replicate bottle values for each irradiance.

LAKE 114


12 MAY 0.0 - 4.0 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
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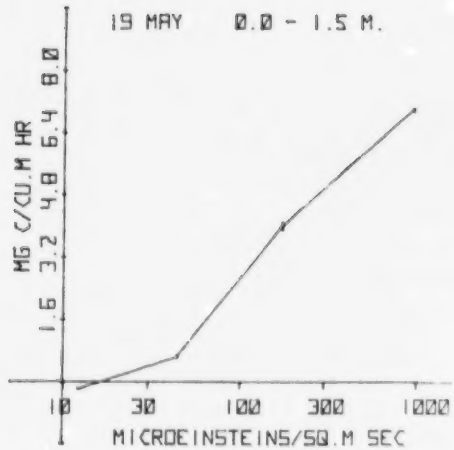
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MG C/CU.M HR
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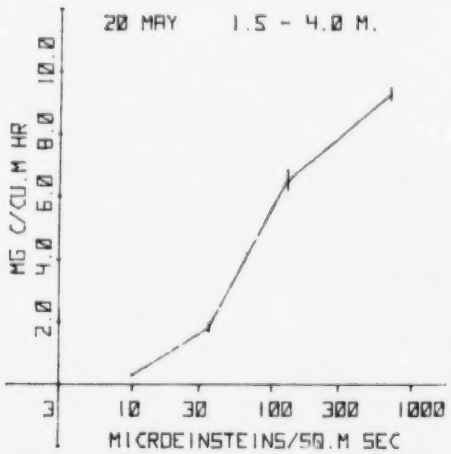
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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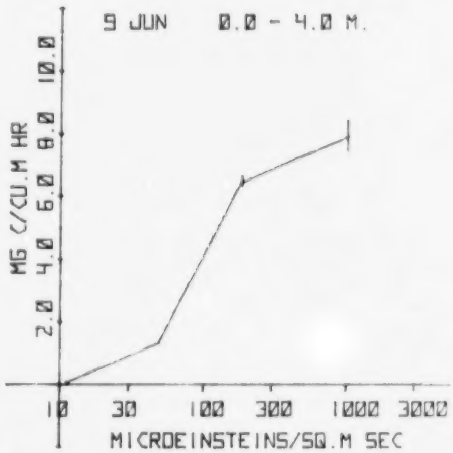
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


9 JUN 0.0 - 4.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
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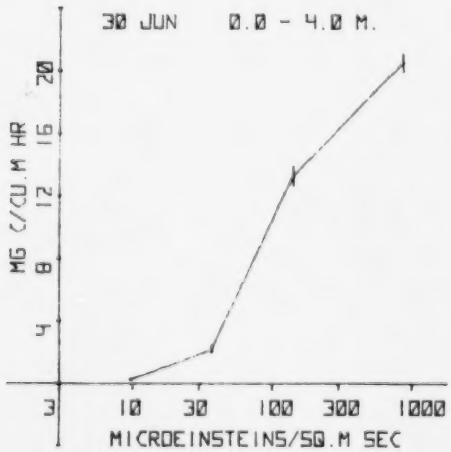
MICROEINSTEINS/SQ.M SEC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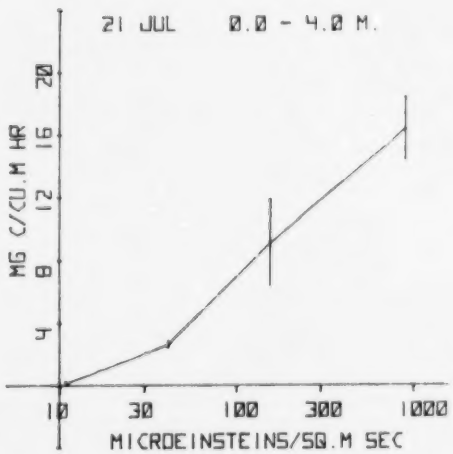
MG C/CU.M HR
4 8 12 16 20
3
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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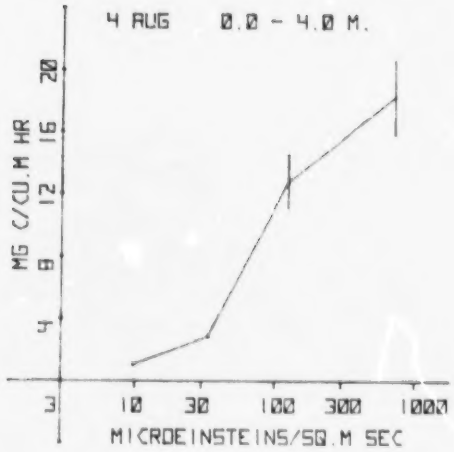
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 114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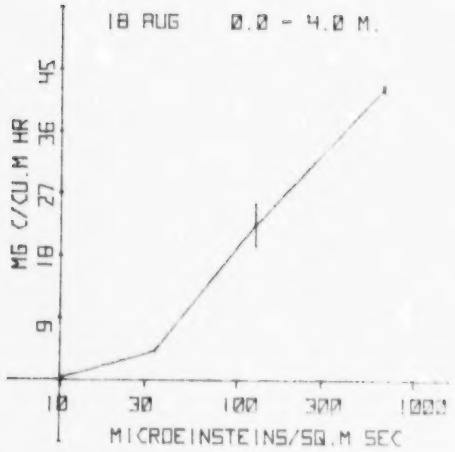
MG C/CU.M HR
4
8
12
16
20
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC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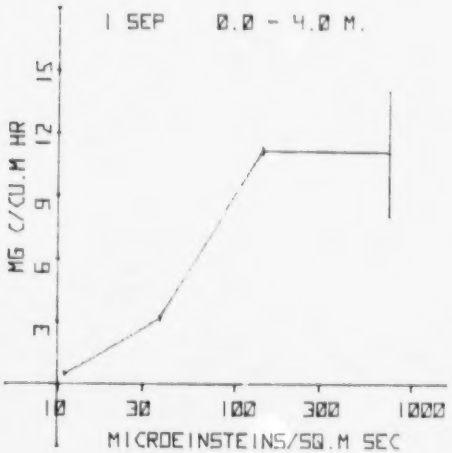
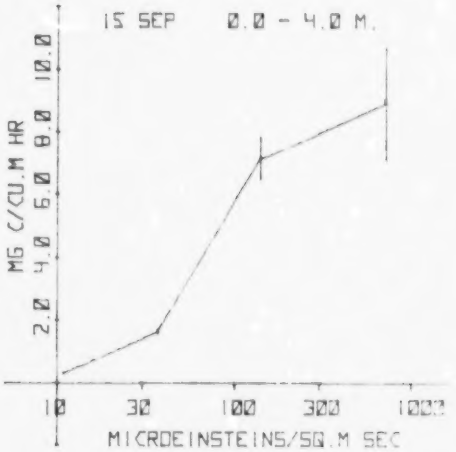
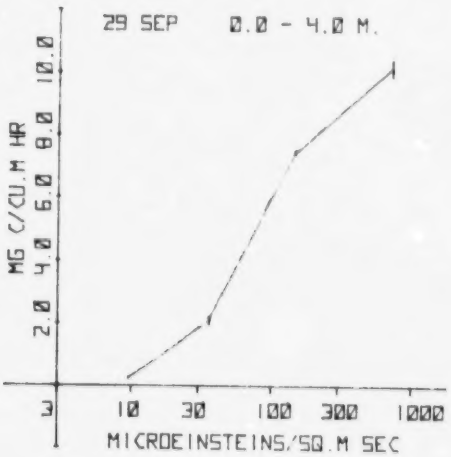
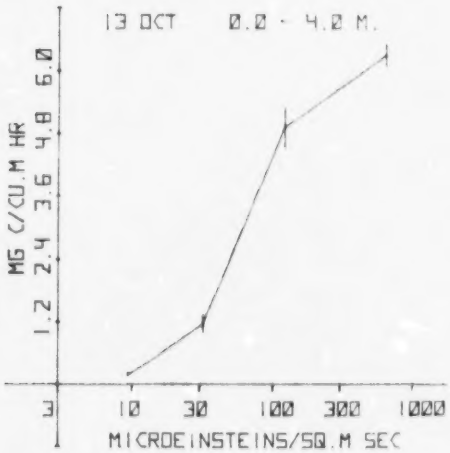
MG C/CU.M HR
9
18
27
36
45
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

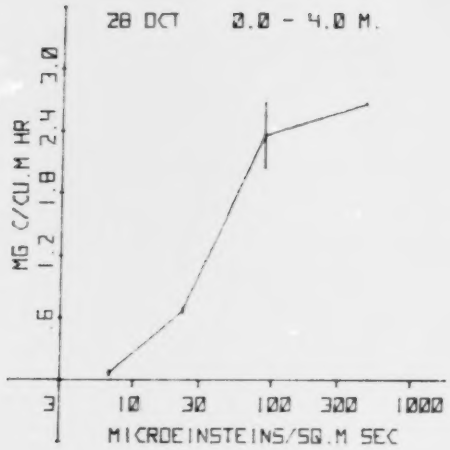

1 SEP 0.0 - 4.0 M.
MG C/CU.M HR
3
6
9
12
15
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


15 SEP 0.0 - 4.0 M.
MG C/CU.M HR
2.0
4.0
6.0
8.0
10.0
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

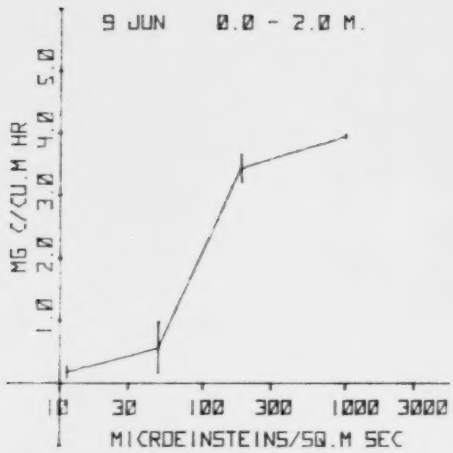

29 SEP 0.0 - 4.0 M.
MG C/CU.M HR
2.0
4.0
6.0
8.0
10.0
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

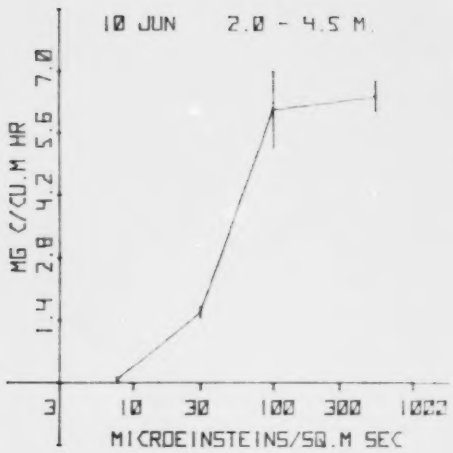

13 OCT 0.0 - 4.0 M.
MG C/CU.M HR
1.2
2.4
3.6
4.8
6.0
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 114


28 OCT 0.0 - 4.0 M.
MG C/CU.M HR
.6
1.2
1.8
2.4
3.0
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 222


9 JUN 0.0 - 2.0 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000 3000
MICROEINSTEINS/SQ.M SEC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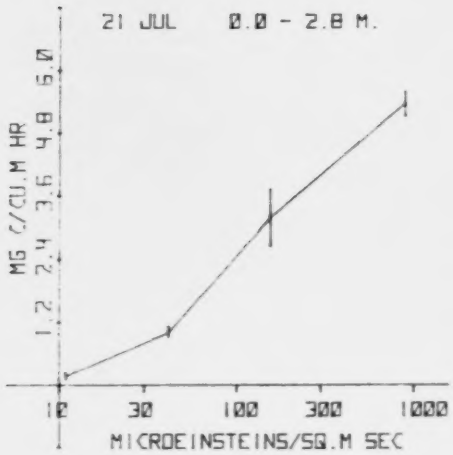
MG C/CU.M HR
1.4 2.8 4.2 5.6 7.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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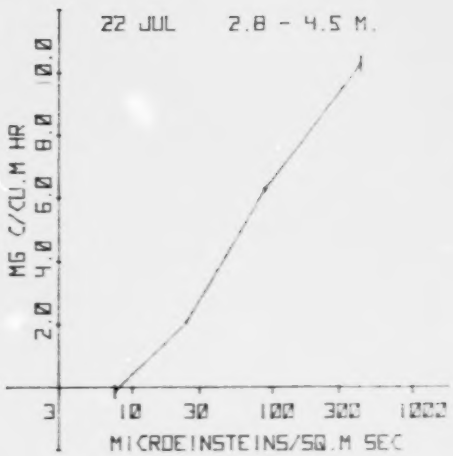
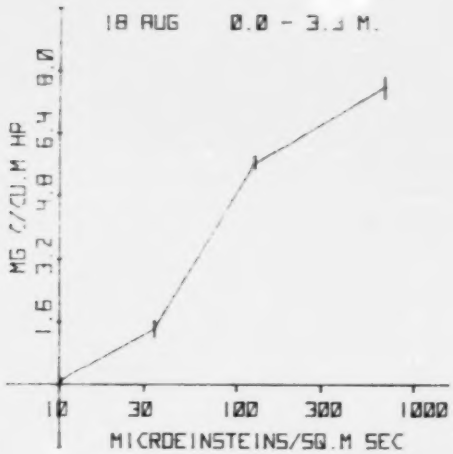
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


22 JUL 2.8 - 4.5 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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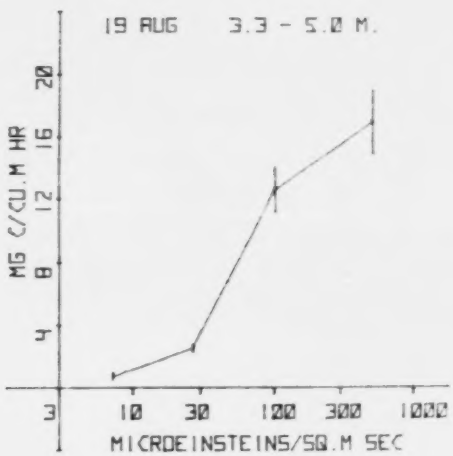
MG C/CU.M HR
1.6 3.2 4.8 6.4 8.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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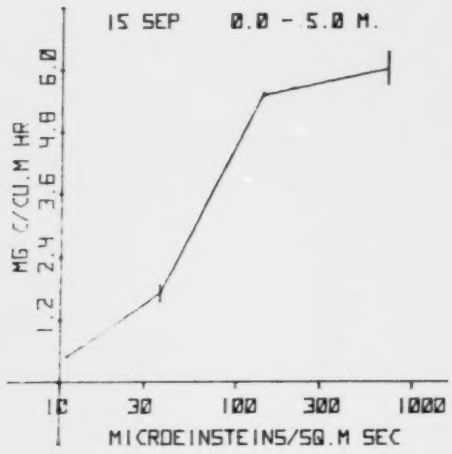
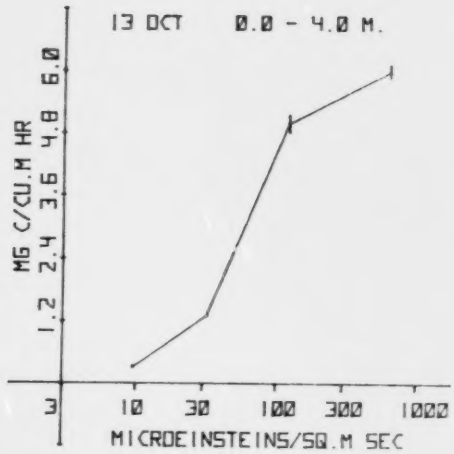
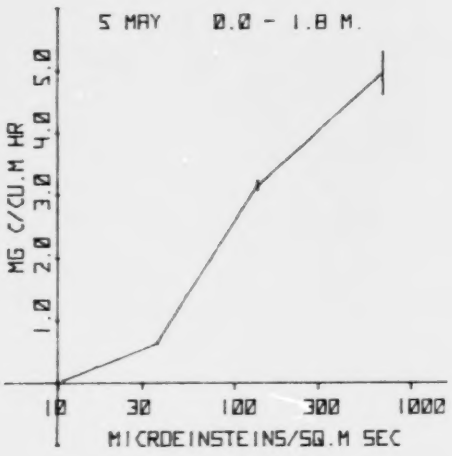
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

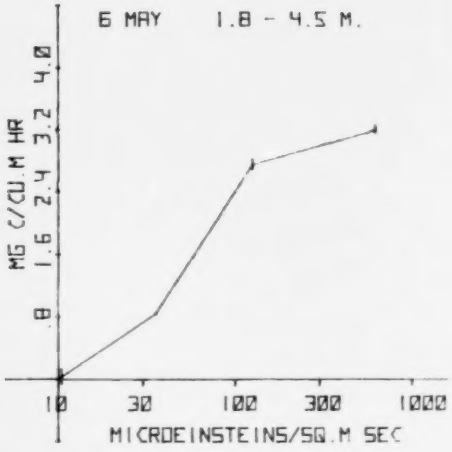
LAKE 222


15 SEP 0.0 - 5.0 M.
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


13 OCT 0.0 - 4.0 M.
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 223


5 MAY 0.0 - 1.8 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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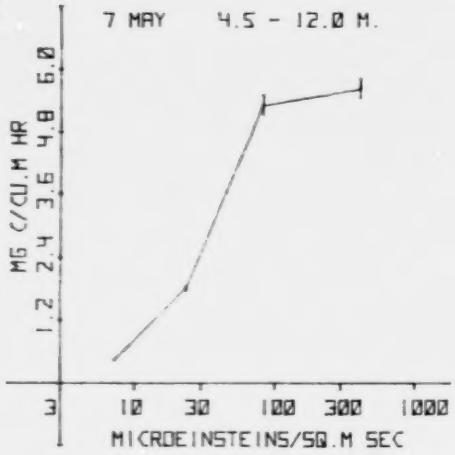
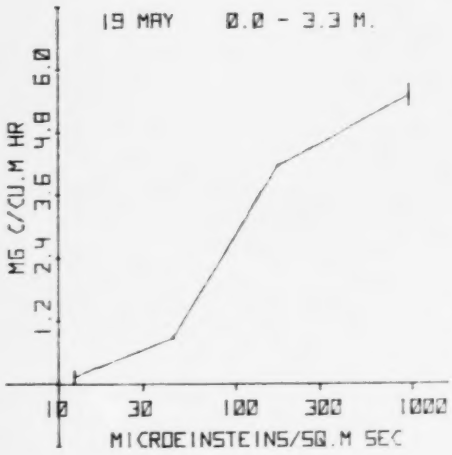
MG C/CU.M HR
.8 1.6 2.4 3.2 4.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


7 MAY 4.5 - 12.0 M.
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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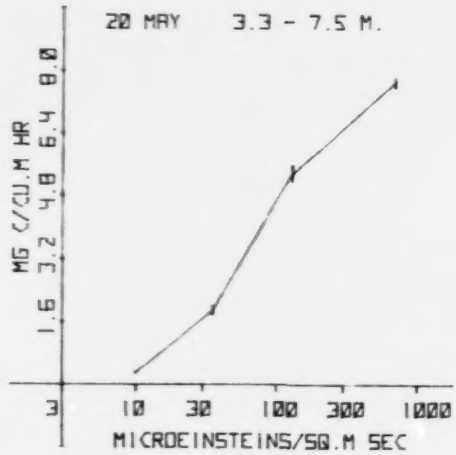
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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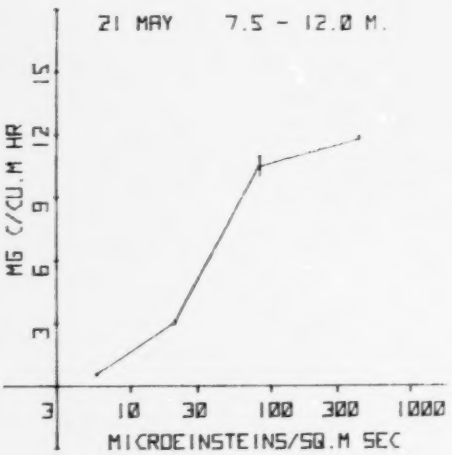
MICROEINSTEINS/SQ.M SEC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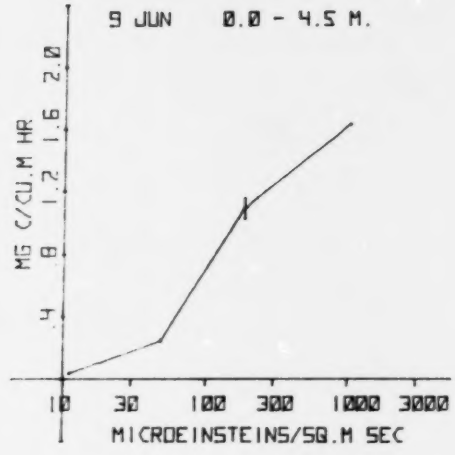
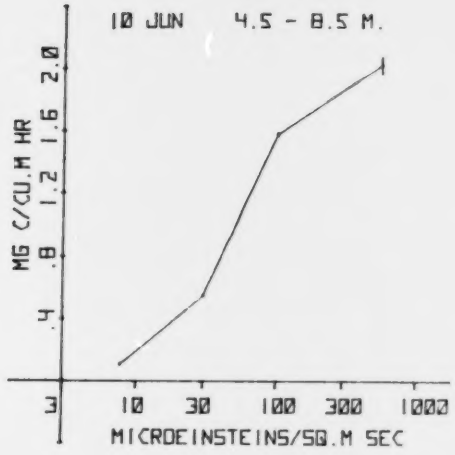
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 223


9 JUN 0.0 - 4.5 M.
MG C/CU.M HR
.4 .8 1.2 1.6 2.0
3 10 30 100 300 1000 3000
MICROEINSTEINS/SQ.M SEC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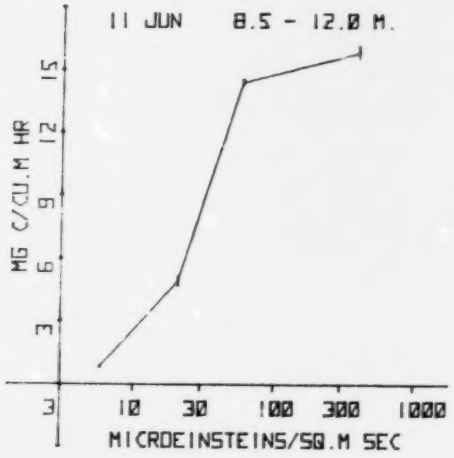
MG C/CU.M HR
.4 .8 1.2 1.6 2.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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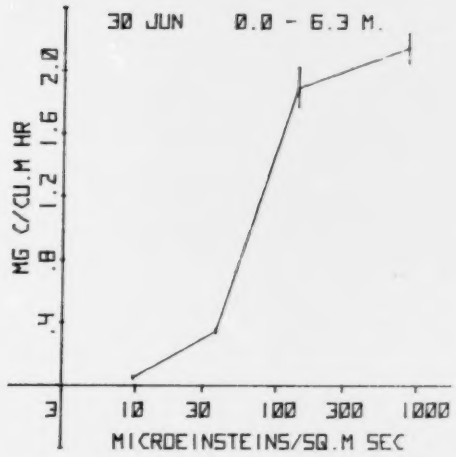
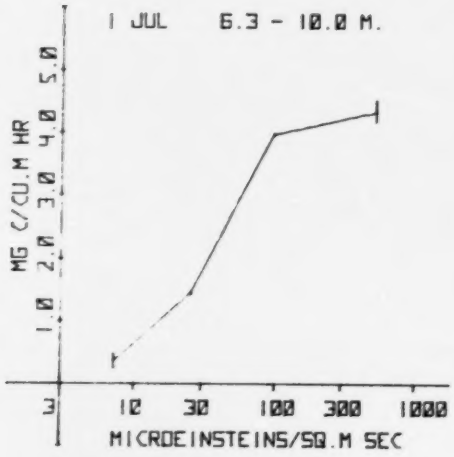
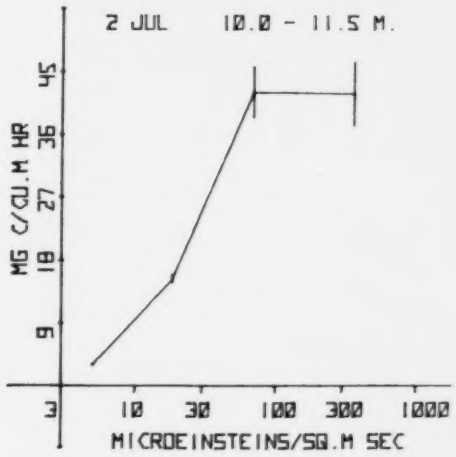
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


30 JUN 0.0 - 6.3 M.
MG C/CU.M HR
.4 .8 1.2 1.6 2.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


1 JUL 6.3 - 10.0 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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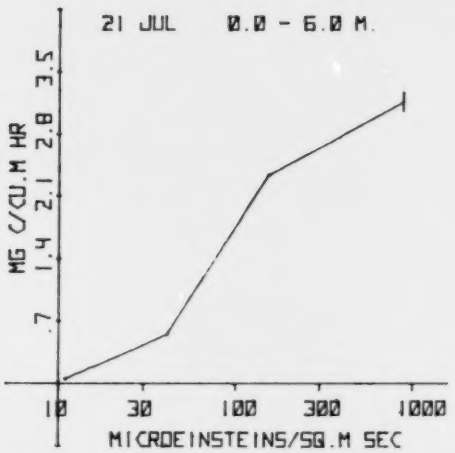
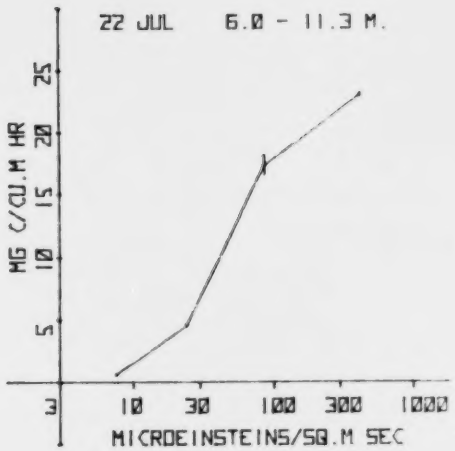
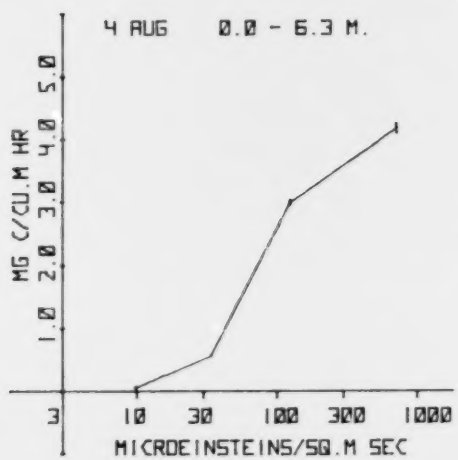
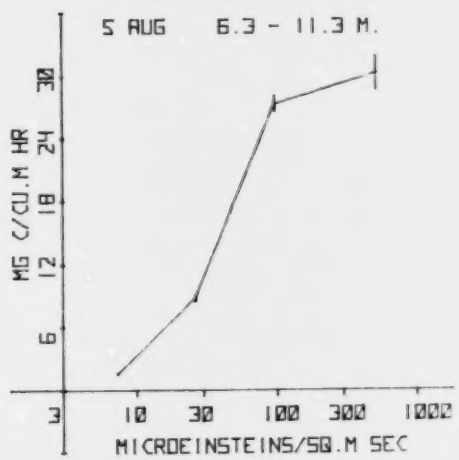
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

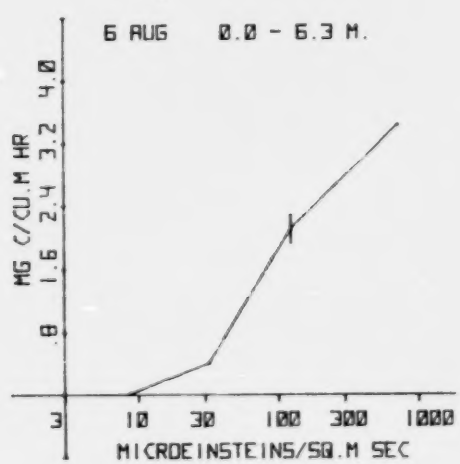
LAKE 223

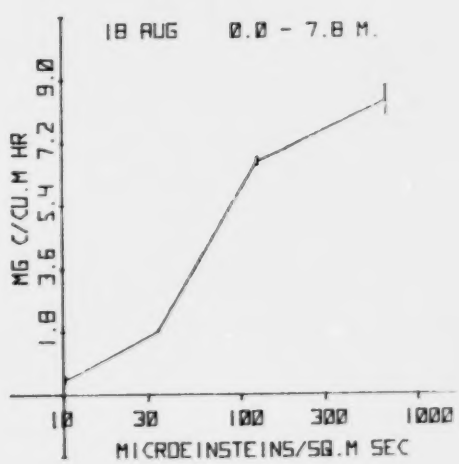

21 JUL 0.0 - 6.0 M.
MG C/CU.M HR
.7 1.4 2.1 2.8 3.5
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


22 JUL 6.0 - 11.3 M.
MG C/CU.M HR
5 10 15 20 25
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

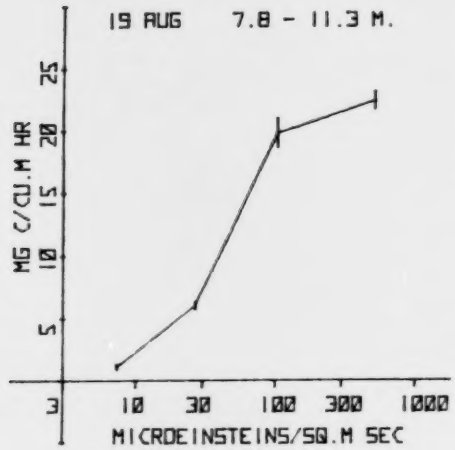

4 AUG 0.0 - 6.3 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

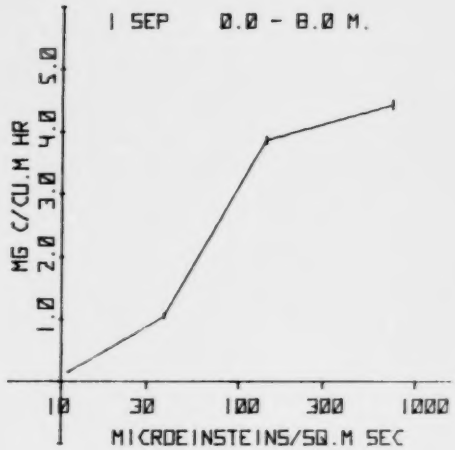

5 AUG 6.3 - 11.3 M.
MG C/CU.M HR
6 12 18 24 30
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

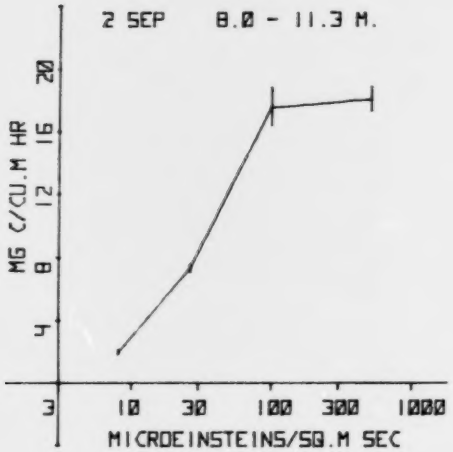

6 AUG 0.0 - 6.3 M.
MG C/CU.M HR
.8 1.6 2.4 3.2 4.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

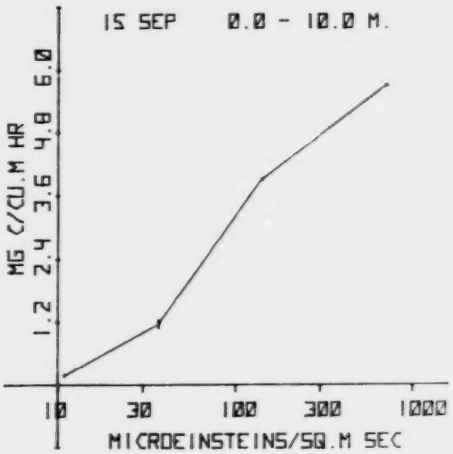

18 AUG 0.0 - 7.8 M.
MG C/CU.M HR
1.8 3.6 5.4 7.2 9.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

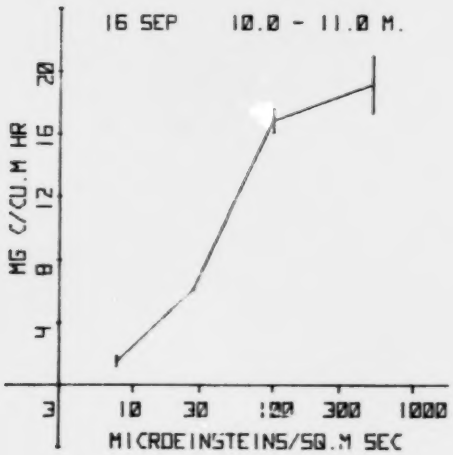
LAKE 223

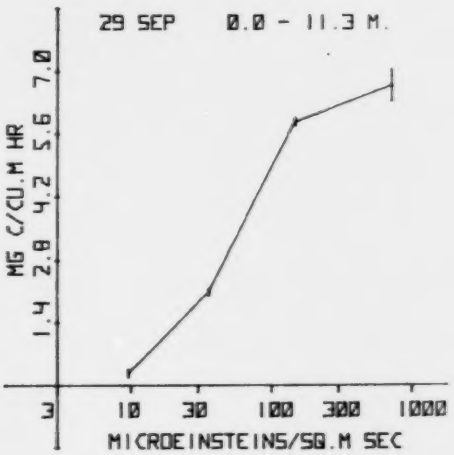

19 AUG 7.8 - 11.3 M.
MG C/CU.M HR
3
5
10
15
20
25
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


1 SEP 0.0 - 8.0 M.
MG C/CU.M HR
1.0
2.0
3.0
4.0
5.0
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

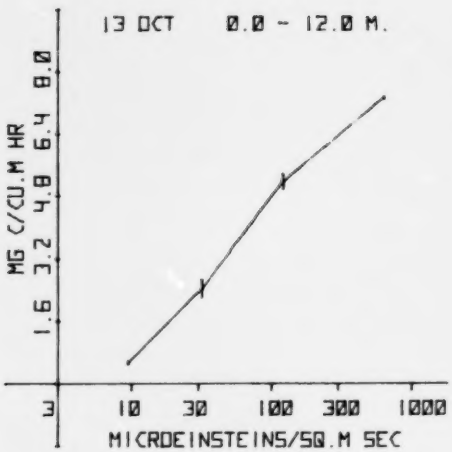

2 SEP 8.0 - 11.3 M.
MG C/CU.M HR
3
4
8
12
16
20
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

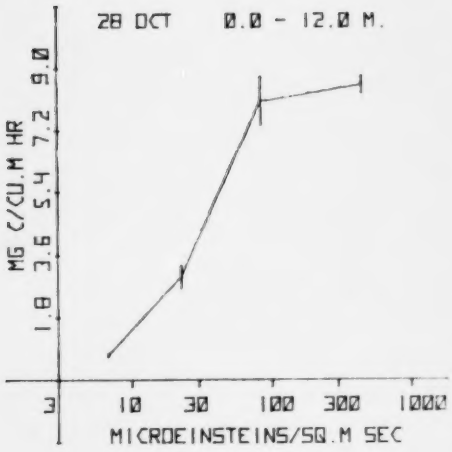

15 SEP 0.0 - 10.0 M.
MG C/CU.M HR
1.2
2.4
3.6
4.8
6.0
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


16 SEP 10.0 - 11.0 M.
MG C/CU.M HR
3
4
8
12
16
20
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

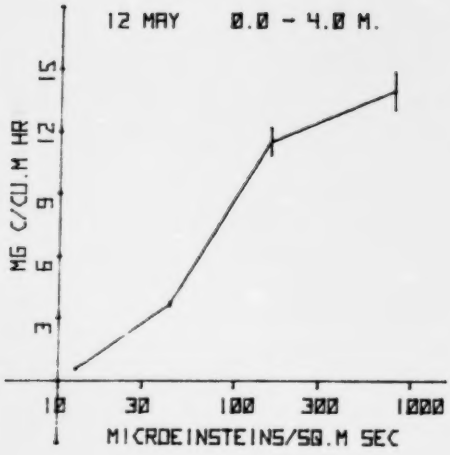

29 SEP 0.0 - 11.3 M.
MG C/CU.M HR
1.4
2.8
4.2
5.6
7.0
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

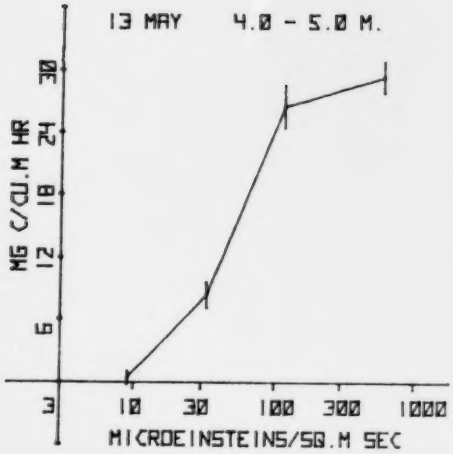
LAKE 223

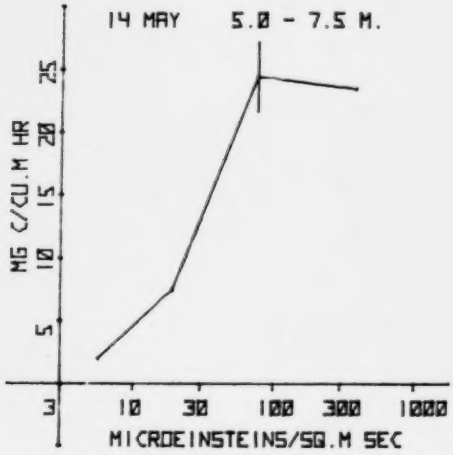

13 OCT 0.0 - 12.0 M.
MG C/CU.M HR
1.6 3.2 4.8 6.4 8.0
3 10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

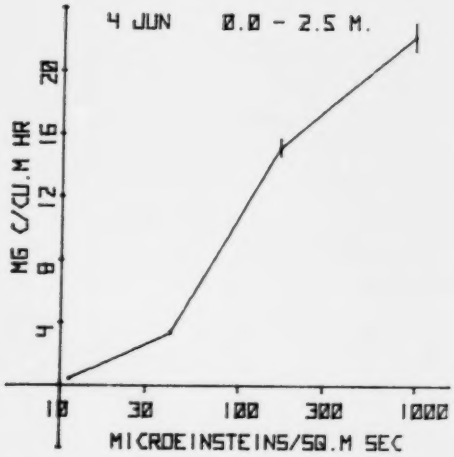

28 OCT 0.0 - 12.0 M.
MG C/CU.M HR
1.8 3.6 5.4 7.2 9.0
3 10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

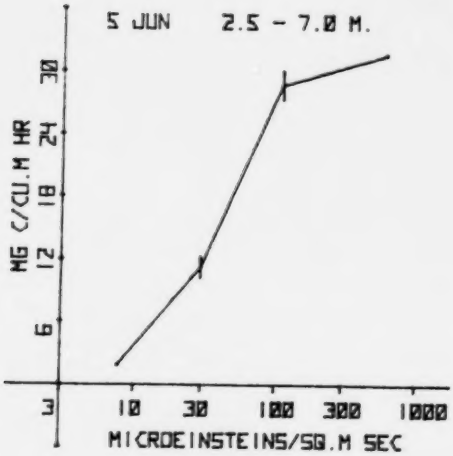
LAKE 226 NE

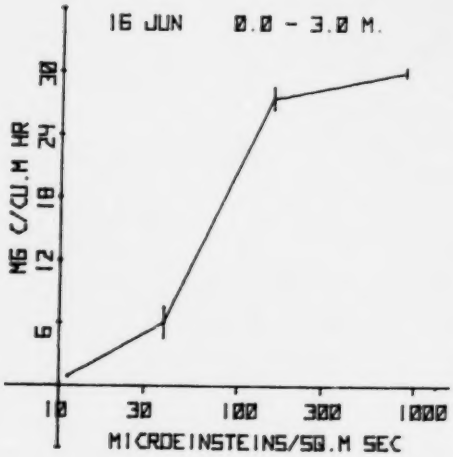

12 MAY 0.0 - 4.0 M.
MG C/CU.M HR
3
6
9
12
15
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


13 MAY 4.0 - 5.0 M.
MG C/CU.M HR
6
12
18
24
30
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

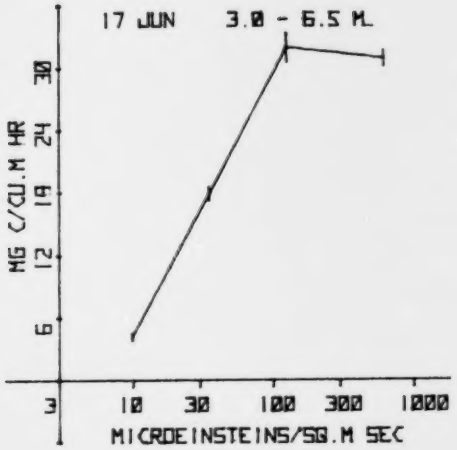

14 MAY 5.0 - 7.5 M.
MG C/CU.M HR
5
10
15
20
25
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

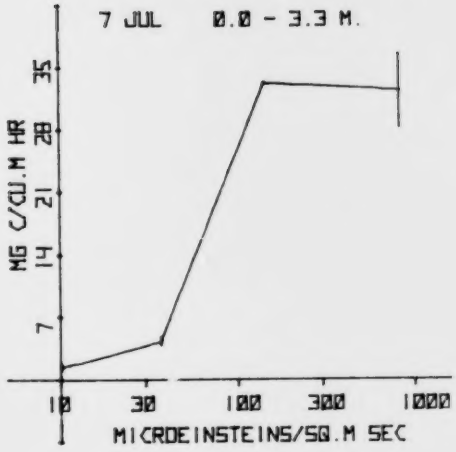

4 JUN 0.0 - 2.5 M.
MG C/CU.M HR
4
8
12
16
20
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

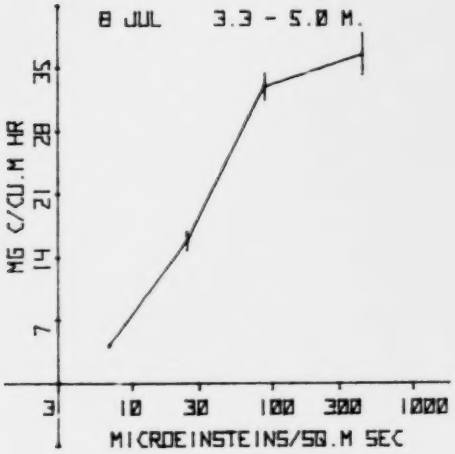

5 JUN 2.5 - 7.0 M.
MG C/CU.M HR
6
12
18
24
30
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

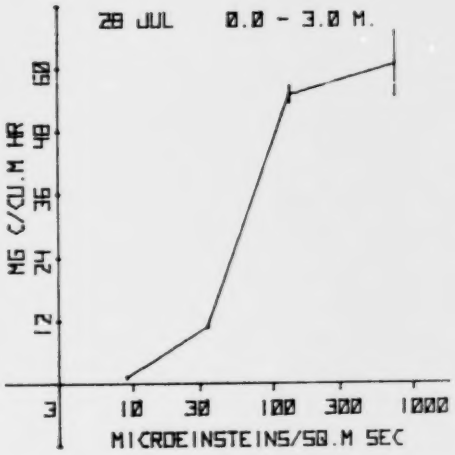

16 JUN 0.0 - 3.0 M.
MG C/CU.M HR
6
12
18
24
30
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

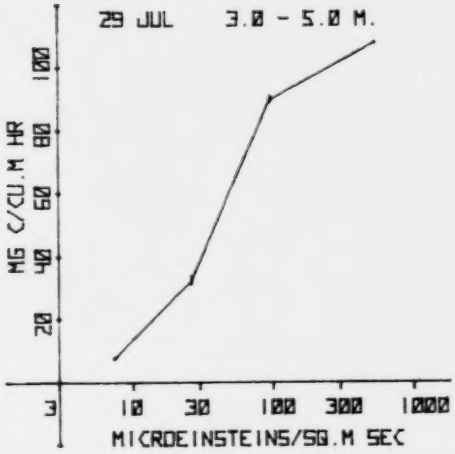
LAKE 226 NE

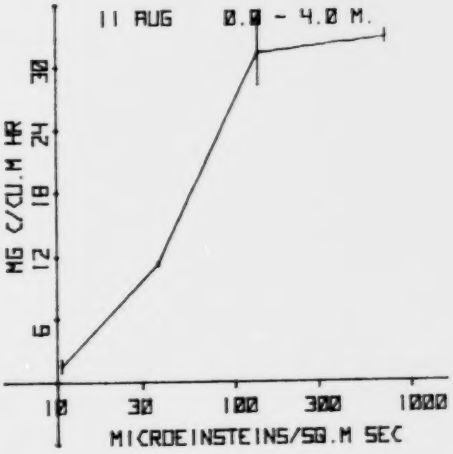

17 JUN 3.0 - 6.5 M.
MG C/CU.M HR
3 6 12 19 24 30
10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC


7 JUL 0.0 - 3.3 M.
MG C/CU.M HR
7 14 21 28 35
10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

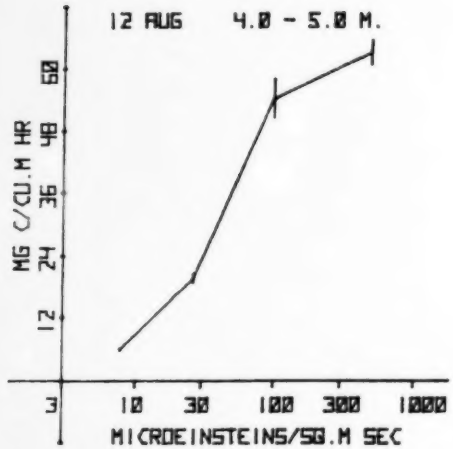

8 JUL 3.3 - 5.0 M.
MG C/CU.M HR
3 7 14 21 28 35
10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

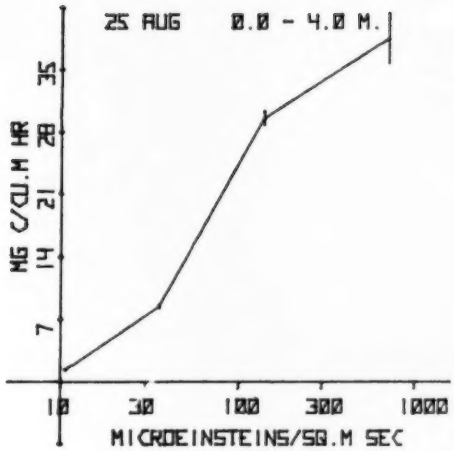

28 JUL 0.0 - 3.0 M.
MG C/CU.M HR
3 12 24 36 48 60
10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

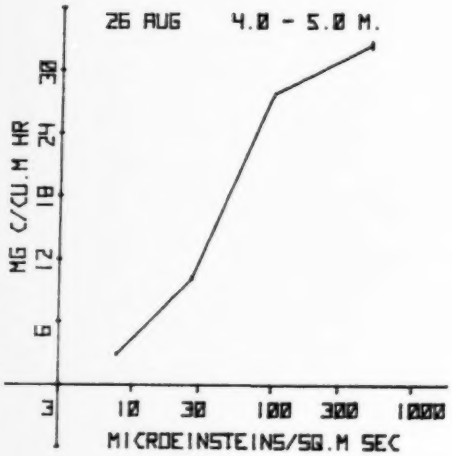

29 JUL 3.0 - 5.0 M.
MG C/CU.M HR
3 20 40 60 80 100
10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

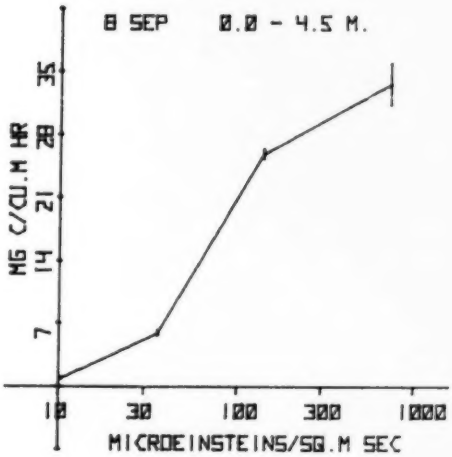

11 AUG 0.0 - 4.0 M.
MG C/CU.M HR
3 6 12 18 24 30
10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC

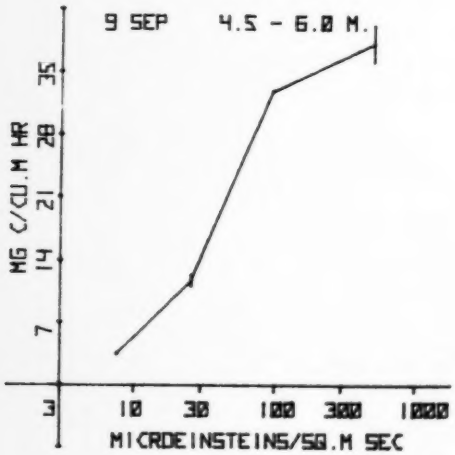
LAKE 226 NE


12 AUG 4.0 - 5.0 M.
MG C/CU.M HR
3
12
24
36
48
60
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


25 AUG 0.0 - 4.0 M.
MG C/CU.M HR
7
14
21
28
35
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


26 AUG 4.0 - 5.0 M.
MG C/CU.M HR
3
6
12
18
24
30
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


8 SEP 0.0 - 4.5 M.
MG C/CU.M HR
7
14
21
28
35
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


9 SEP 4.5 - 6.0 M.
MG C/CU.M HR
3
7
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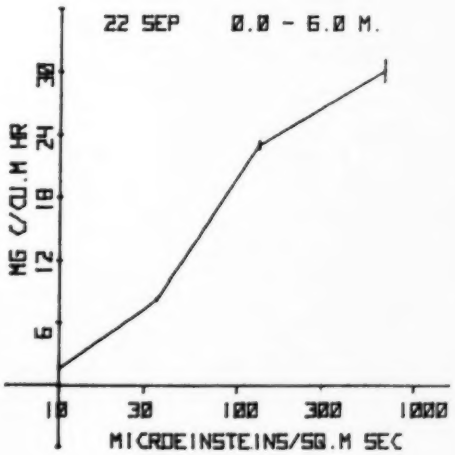
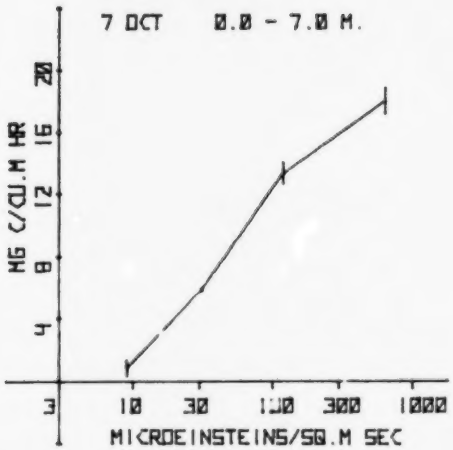
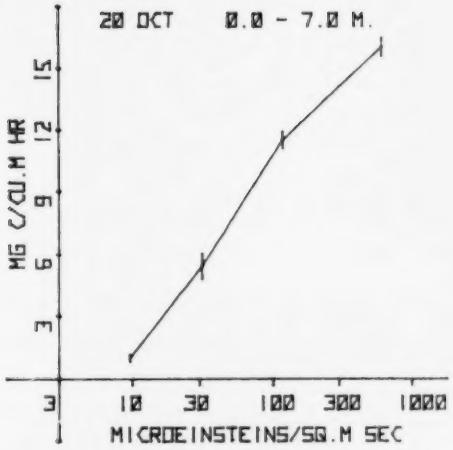
100
300
1000
MICROEINSTEINS/SQ.M SEC

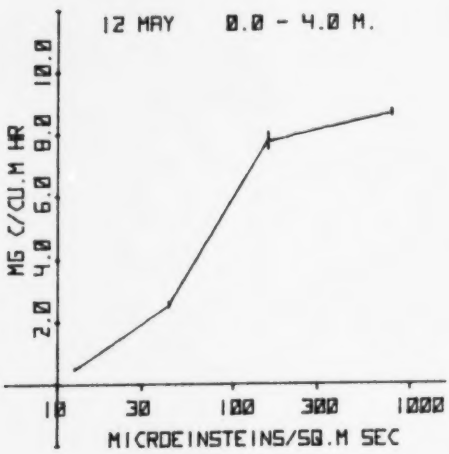

22 SEP 0.0 - 6.0 M.
MG C/CU.M HR
6
12
18
24
30
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

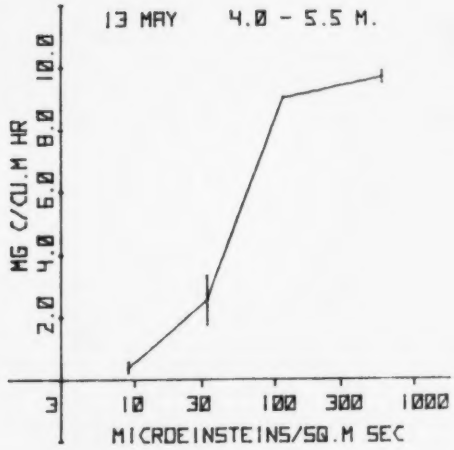
LAKE 226 NE

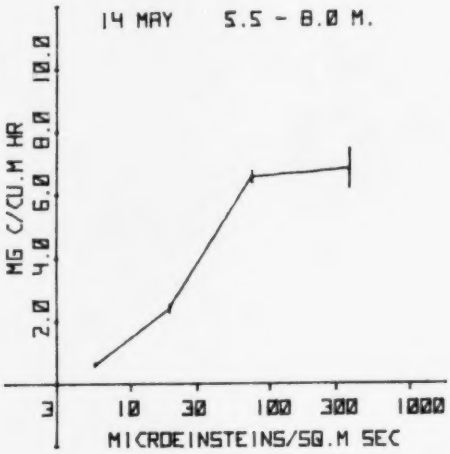

7 OCT 0.0 - 7.0 M.
MG C/CU.M HR
4
8
12
16
20
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

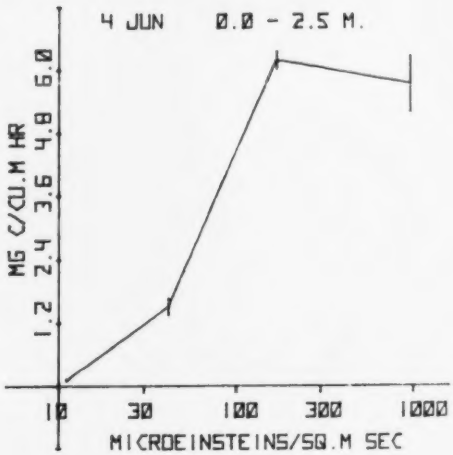

20 OCT 0.0 - 7.0 M.
MG C/CU.M HR
3
6
9
12
15
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

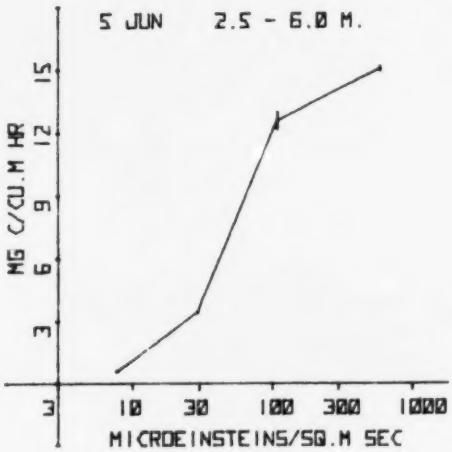
LAKE 226 SW

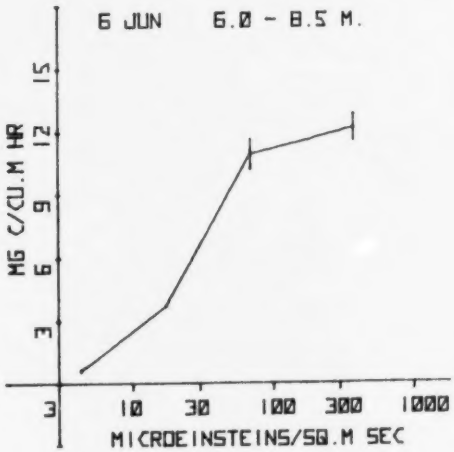

12 MAY 0.0 - 4.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


13 MAY 4.0 - 5.5 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

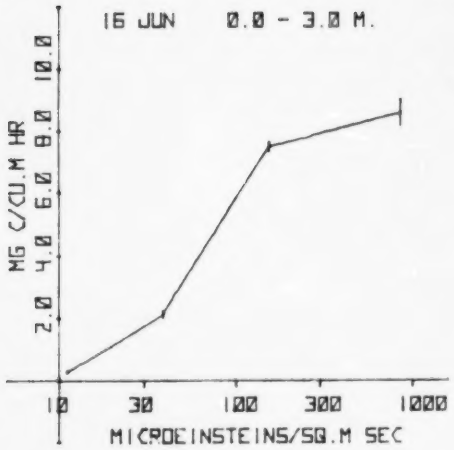

14 MAY 5.5 - 8.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

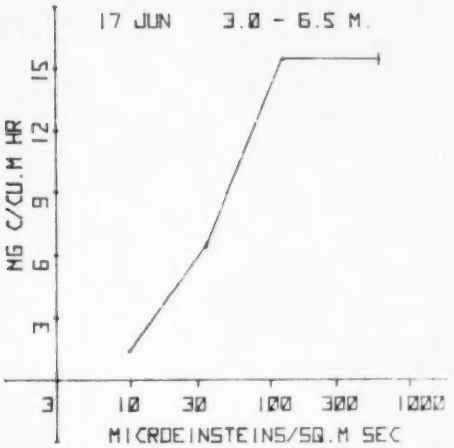

4 JUN 0.0 - 2.5 M.
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


5 JUN 2.5 - 6.0 M.
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


6 JUN 6.0 - 8.5 M.
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 226 SW


16 JUN 0.0 - 3.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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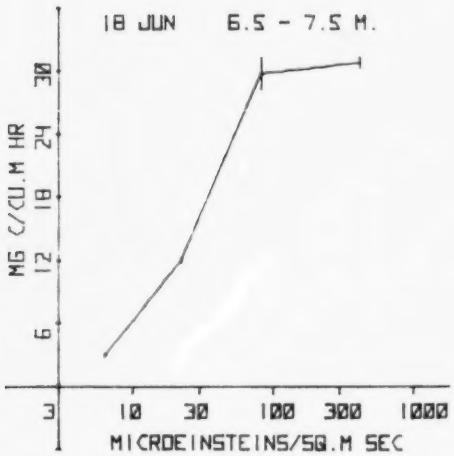
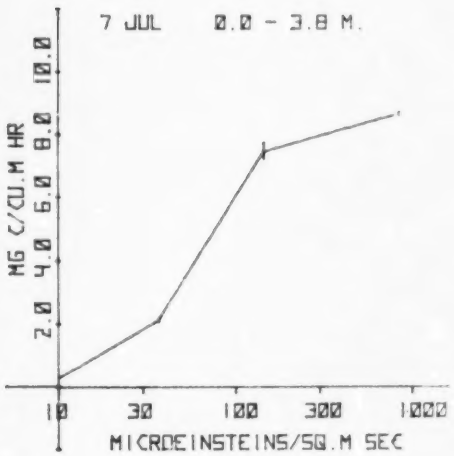
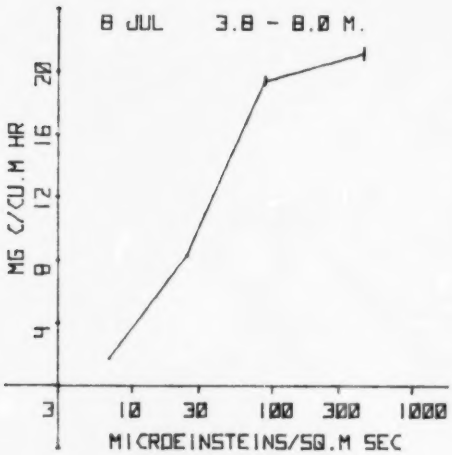
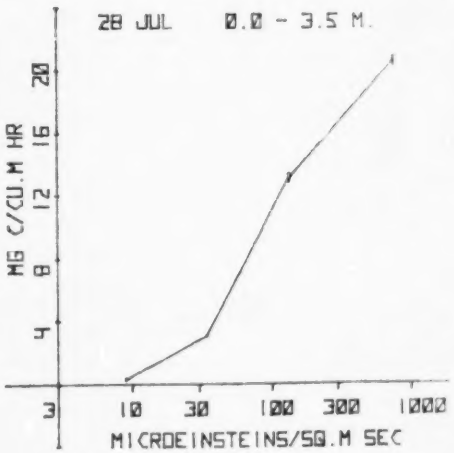
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

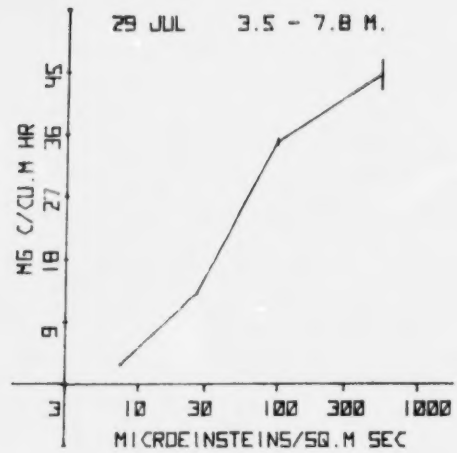

18 JUN 6.5 - 7.5 M.
MG C/CU.M HR
6 12 18 24 30
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


7 JUL 0.0 - 3.8 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


8 JUL 3.8 - 8.0 M.
MG C/CU.M HR
4 8 12 16 20
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


28 JUL 0.0 - 3.5 M.
MG C/CU.M HR
4 8 12 16 20
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 226 SW


29 JUL 3.5 - 7.8 M.
MG C/CU.M HR
9
18
27
36
45
3
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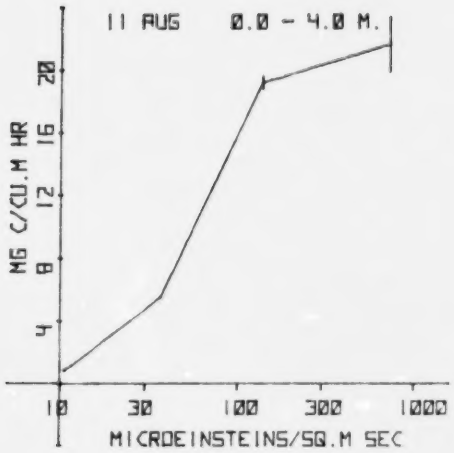
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


11 AUG 0.0 - 4.0 M.
MG C/CU.M HR
4
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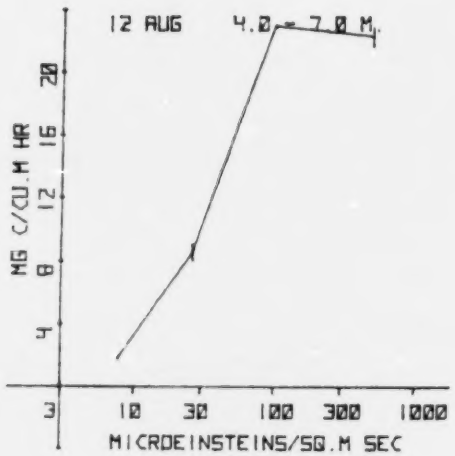
300
1000
MICROEINSTEINS/SQ.M SEC


12 AUG 4.0 - 7.0 M.
MG C/CU.M HR
4
8
12
16
20
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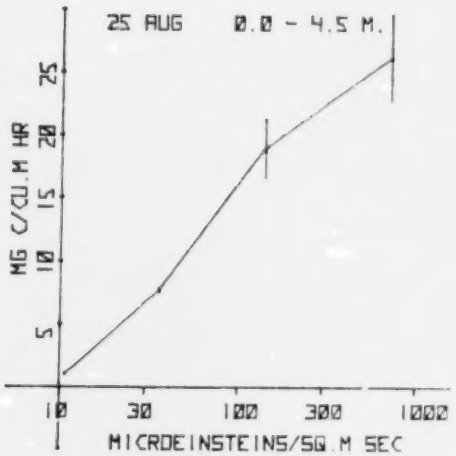
300
1000
MICROEINSTEINS/SQ.M SEC


25 AUG 0.0 - 4.5 M.
MG C/CU.M HR
5
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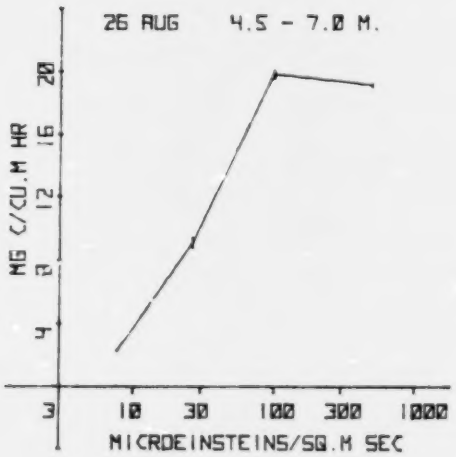
300
1000
MICROEINSTEINS/SQ.M SEC


26 AUG 4.5 - 7.0 M.
MG C/CU.M HR
4
8
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16
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3
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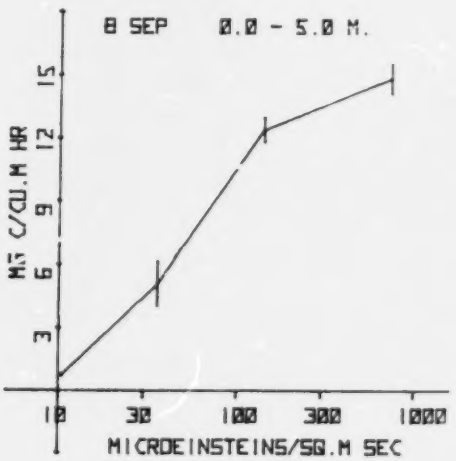
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


8 SEP 0.0 - 5.0 M.
MG C/CU.M HR
3
6
9
12
15
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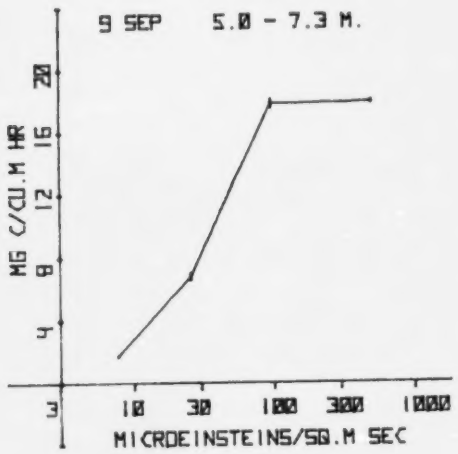
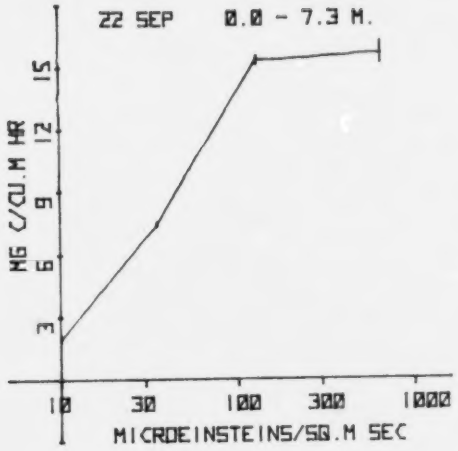
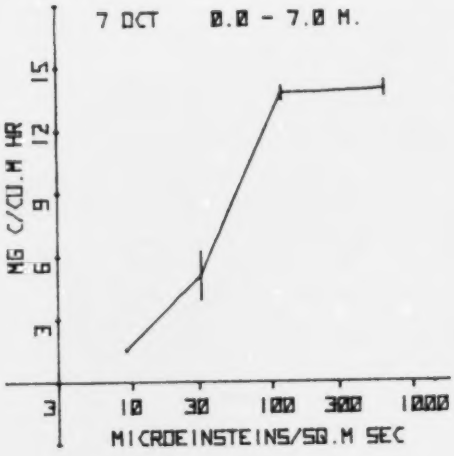
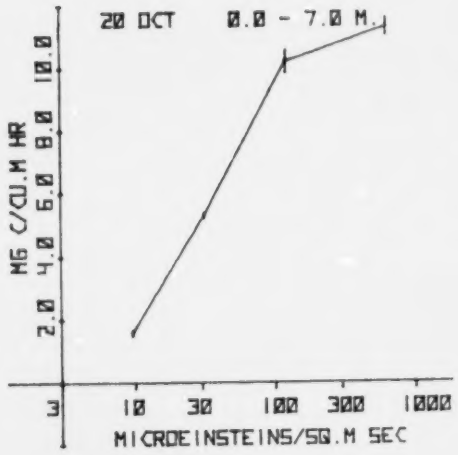
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 226 SW

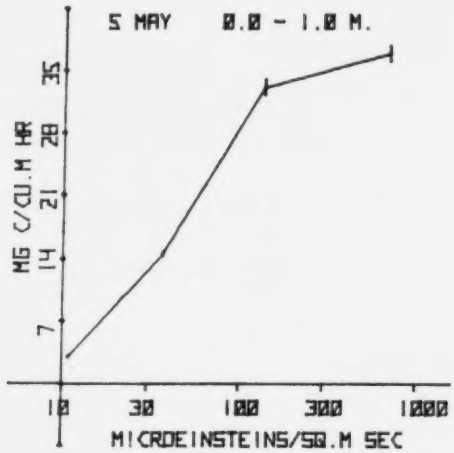

9 SEP 5.0 - 7.3 M.
MG C/CU.M HR
4
8
12
16
20
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

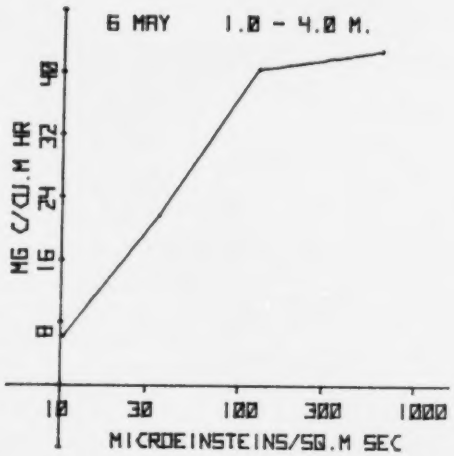

22 SEP 0.0 - 7.3 M.
MG C/CU.M HR
3
6
9
12
15
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


7 OCT 0.0 - 7.0 M.
MG C/CU.M HR
3
6
9
12
15
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


20 OCT 0.0 - 7.0 M.
MG C/CU.M HR
2.0
4.0
6.0
8.0
10.0
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 227


5 MAY 0.0 - 1.0 M.
MG C/CU.M HR
7
14
21
28
35
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


6 MAY 1.0 - 4.0 M.
MG C/CU.M HR
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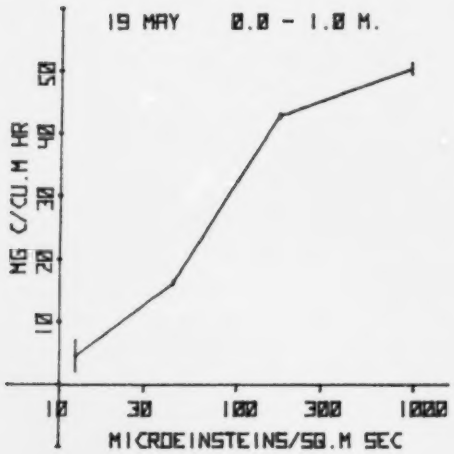
16
24
32
40
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


19 MAY 0.0 - 1.0 M.
MG C/CU.M HR
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50
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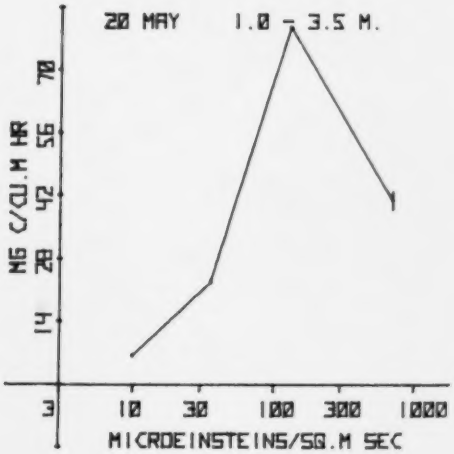
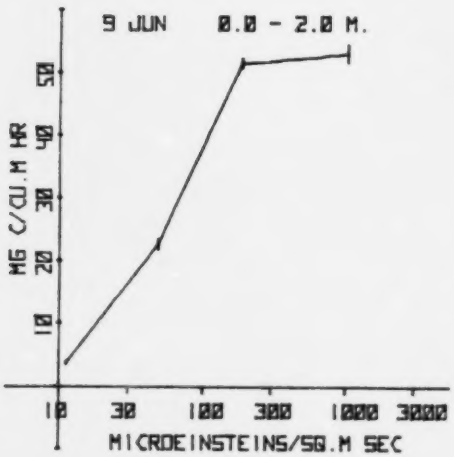
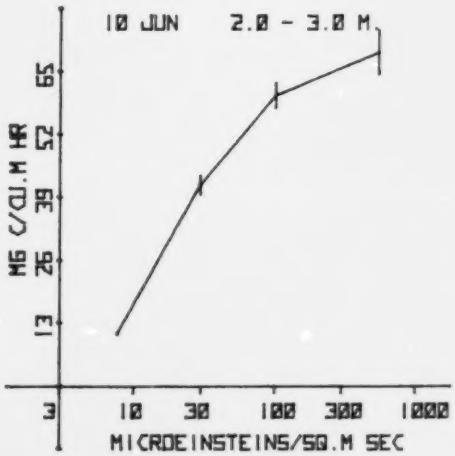
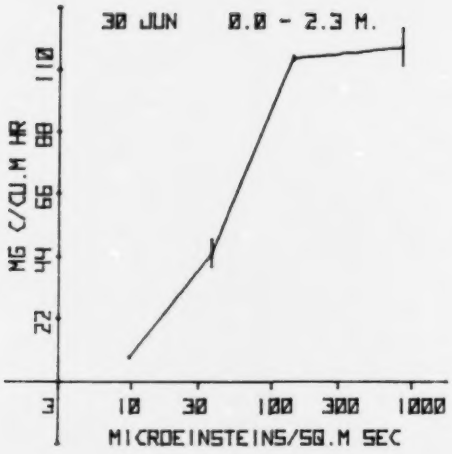
100
300
1000
MICROEINSTEINS/SQ.M SEC


20 MAY 1.0 - 3.5 M.
MG C/CU.M HR
3
14
28
42
56
70
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


9 JUN 0.0 - 2.0 M.
MG C/CU.M HR
10
20
30
40
50
10
30
100
300
1000
3000
MICROEINSTEINS/SQ.M SEC


10 JUN 2.0 - 3.0 M.
MG C/CU.M HR
3
13
26
39
52
65
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 227


30 JUN 0.0 - 2.3 M.
MG C/CU.M HR
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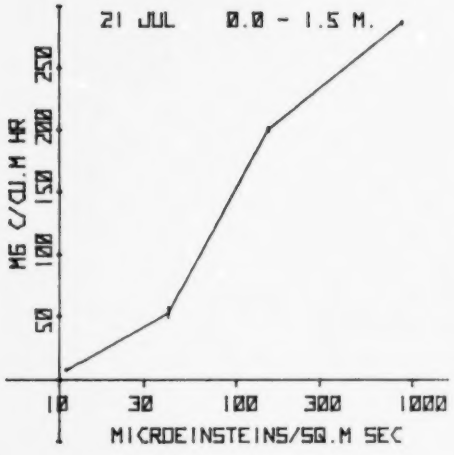
44
66
88
110
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC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250
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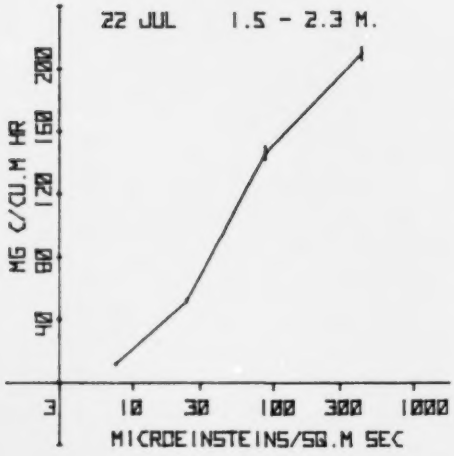
100
300
1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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200
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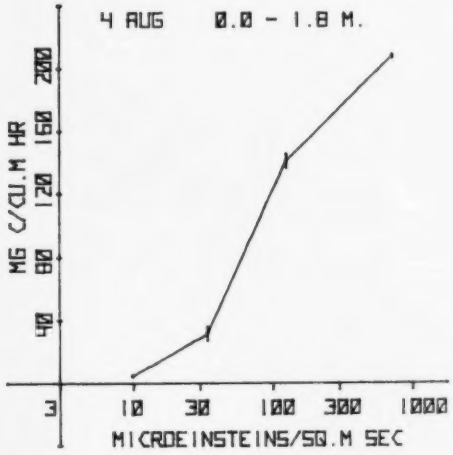
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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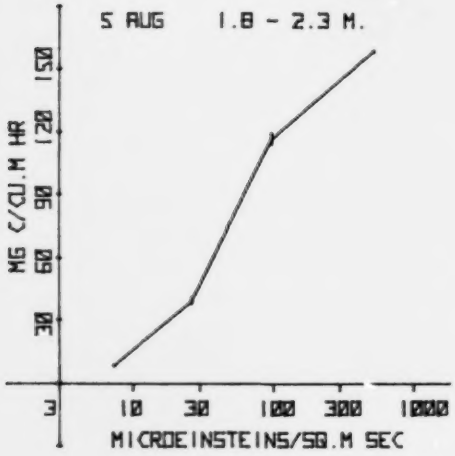
1000
MICROEINSTEINS/SQ.M SEC


5 AUG 1.8 - 2.3 M.
MG C/CU.M HR
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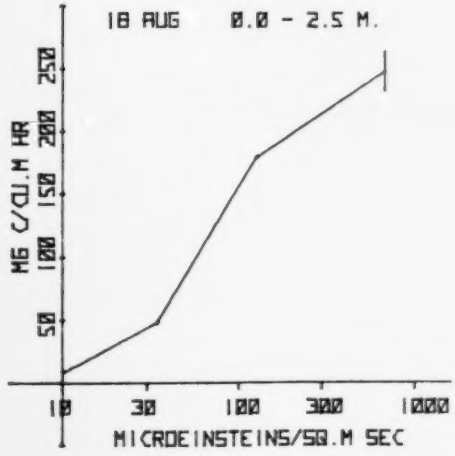
60
90
120
150
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


18 AUG 0.0 - 2.5 M.
MG C/CU.M HR
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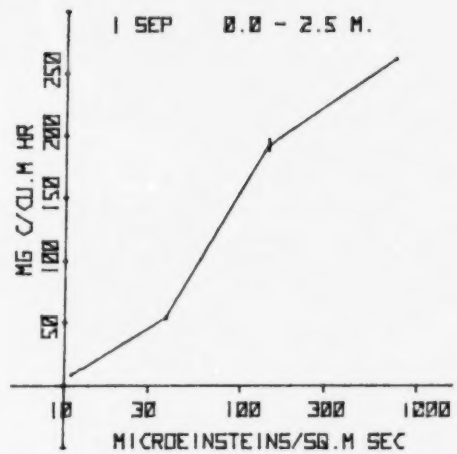
100
150
200
250
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 227


1 SEP 0.0 - 2.5 M.
MG C/CU.M HR
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150
200
250
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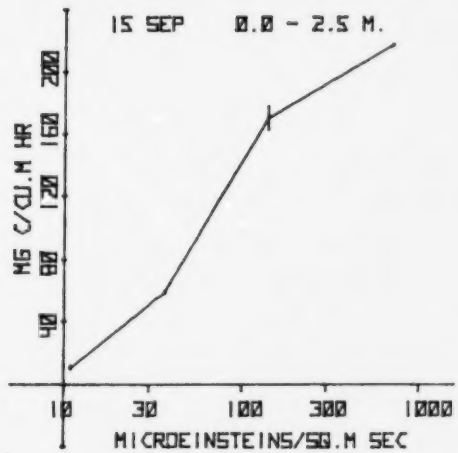
100
300
1000
MICROEINSTEINS/SQ.M SEC


15 SEP 0.0 - 2.5 M.
MG C/CU.M HR
40
80
120
160
200
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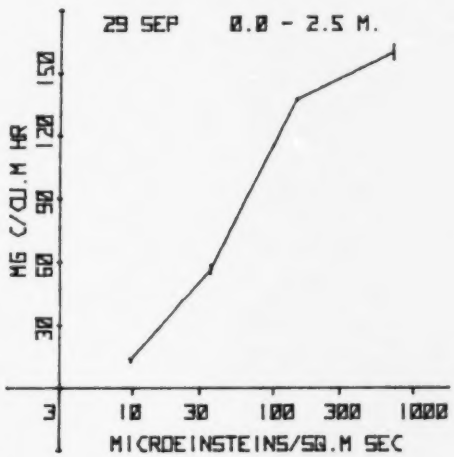
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


29 SEP 0.0 - 2.5 M.
MG C/CU.M HR
30
60
90
120
150
3
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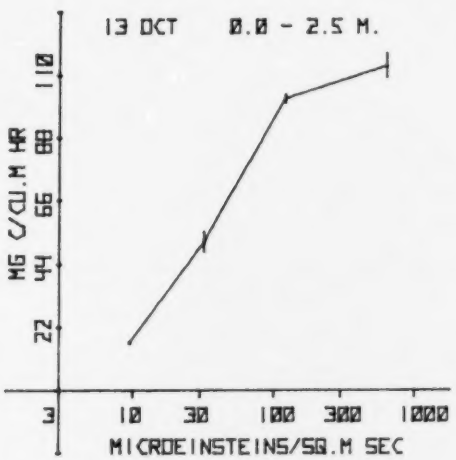
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


13 OCT 0.0 - 2.5 M.
MG C/CU.M HR
22
44
66
88
110
3
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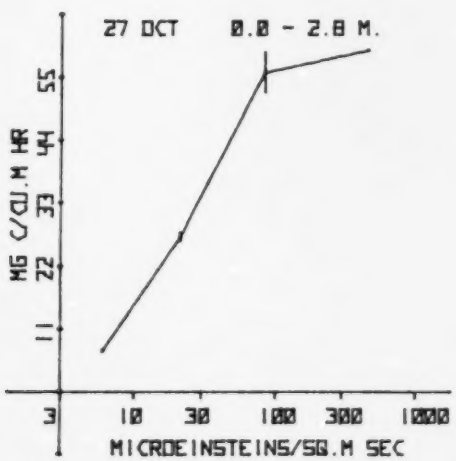
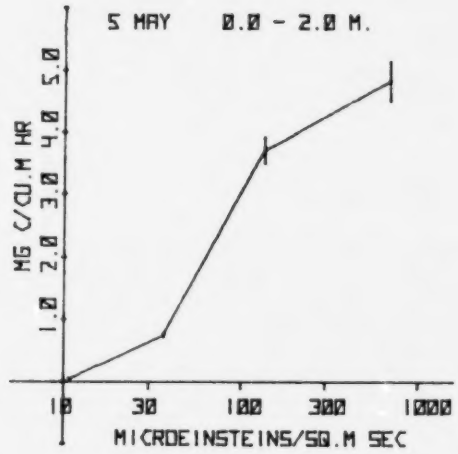
30
100
300
1000
MICROEINSTEINS/SQ.M SEC


27 OCT 0.0 - 2.8 M.
MG C/CU.M HR
11
22
33
44
55
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 239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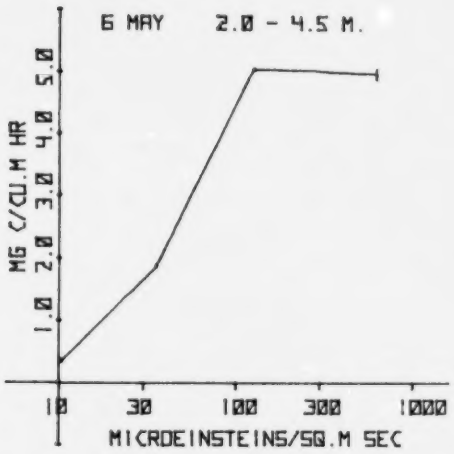
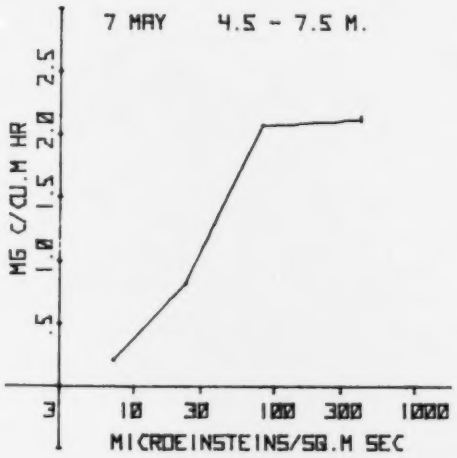
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


6 MAY 2.0 - 4.5 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


7 MAY 4.5 - 7.5 M.
MG C/CU.M HR
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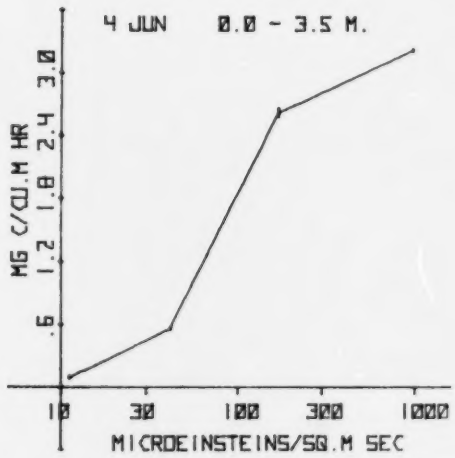
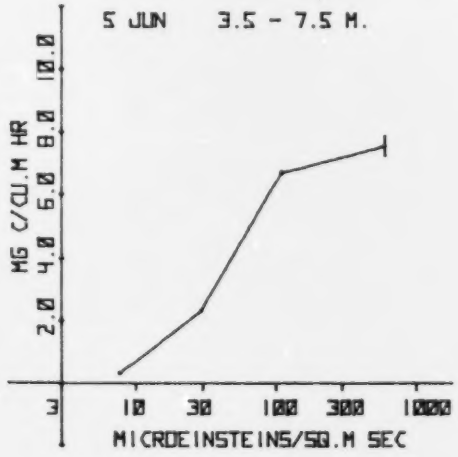
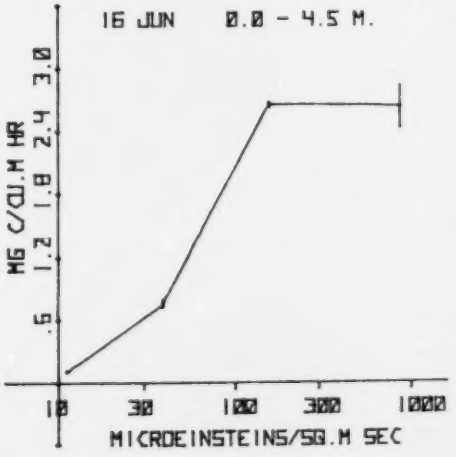
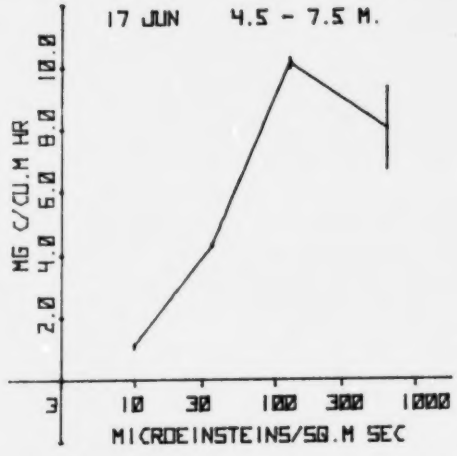
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


4 JUN 0.0 - 3.5 M.
MG C/CU.M HR
.6 1.2 1.8 2.4 3.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


5 JUN 3.5 - 7.5 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


16 JUN 0.0 - 4.5 M.
MG C/CU.M HR
.6 1.2 1.8 2.4 3.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 239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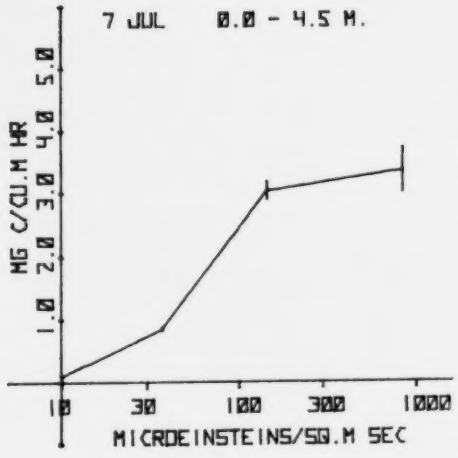
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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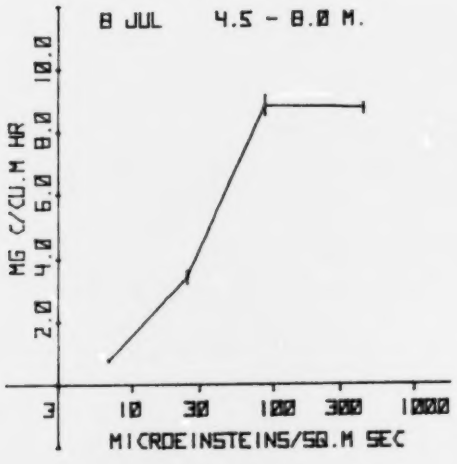
MICROEINSTEINS/SQ.M SEC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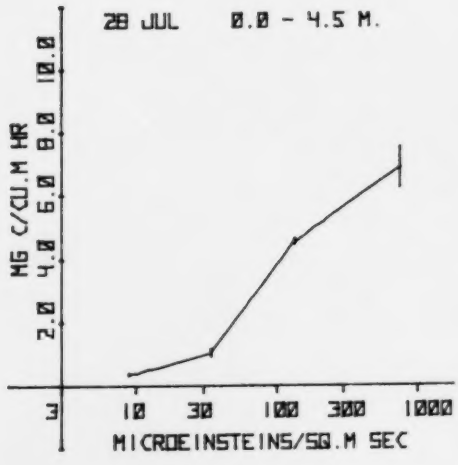
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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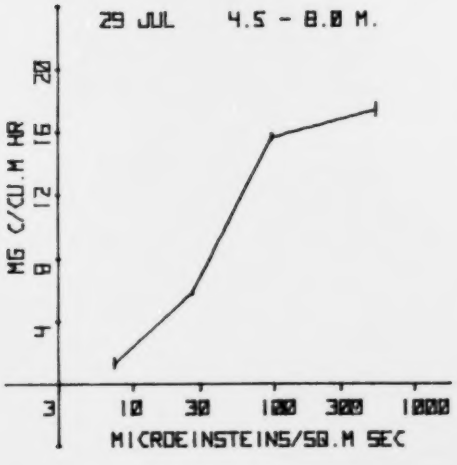
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
4 8 12 16 20
3 10 30 100 300 1000
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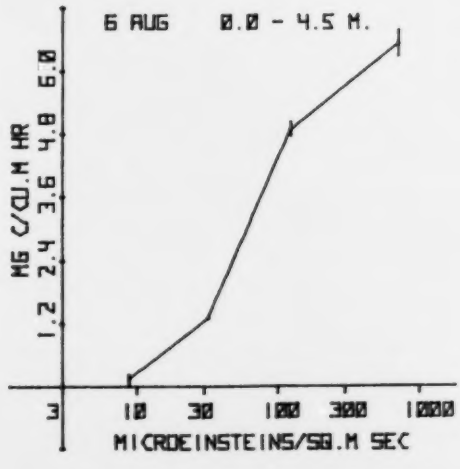
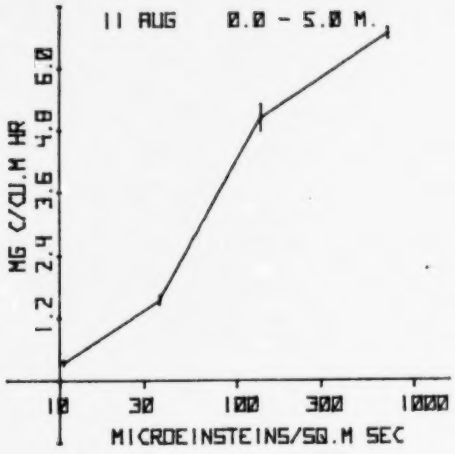

6 AUG 0.0 - 4.5 M.
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 239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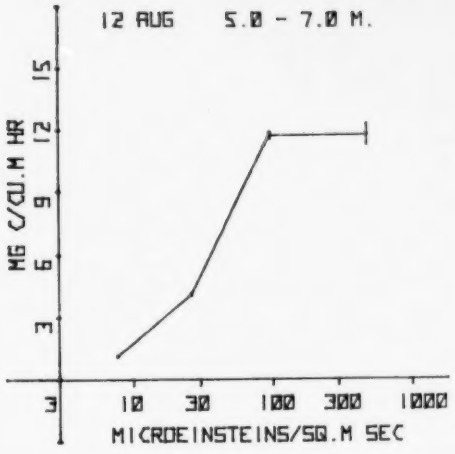
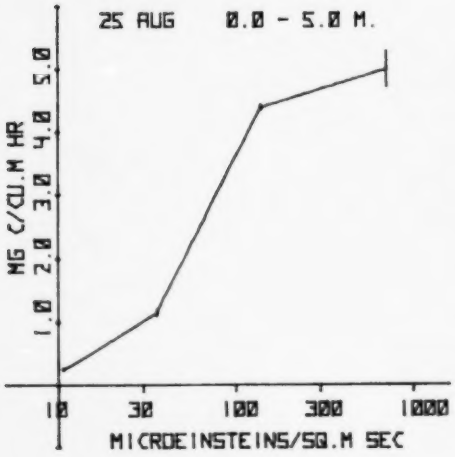
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


12 AUG 5.0 - 7.0 M.
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
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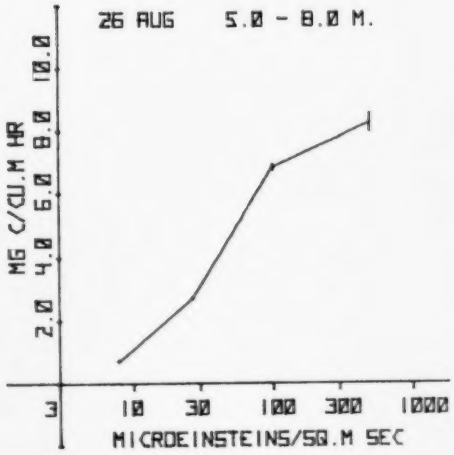
MICROEINSTEINS/SQ.M SEC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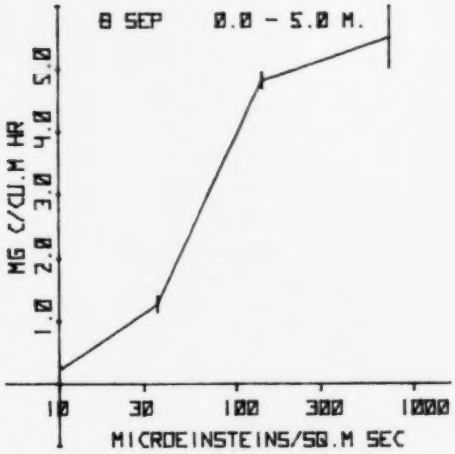
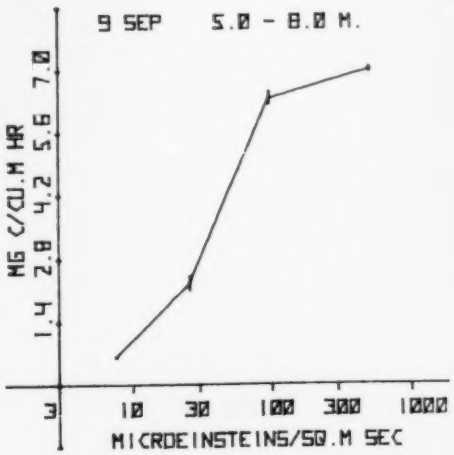
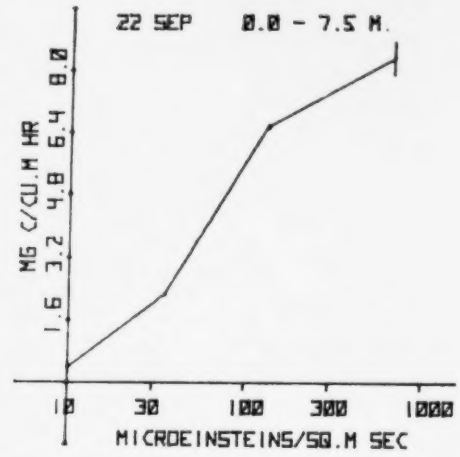
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


8 SEP 0.0 - 5.0 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


9 SEP 5.0 - 8.0 M.
MG C/CU.M HR
1.4 2.8 4.2 5.6 7.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 239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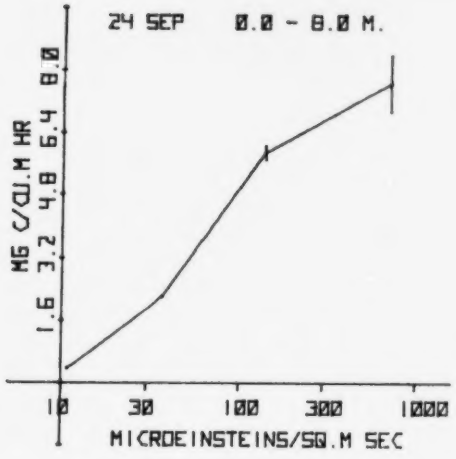
MG C/CU.M HR
1.6 3.2 4.8 6.4 8.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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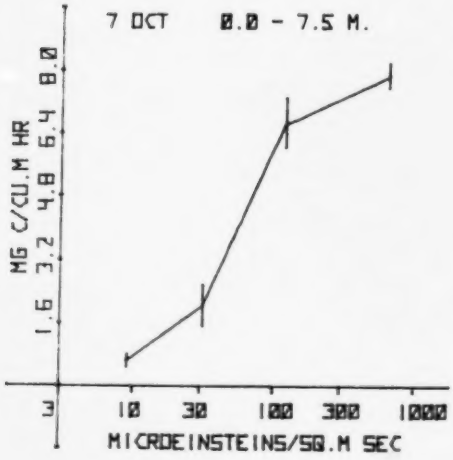
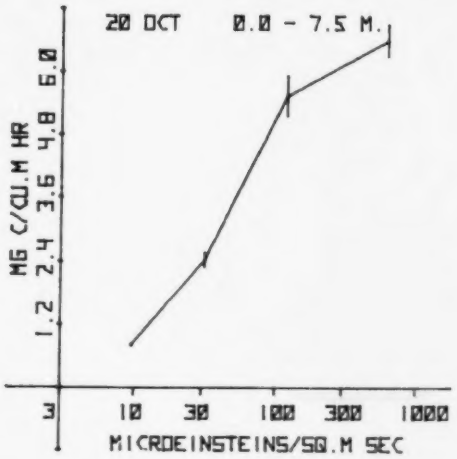
MG C/CU.M HR
1.6 3.2 4.8 6.4 8.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


7 OCT 0.0 - 7.5 M.
MG C/CU.M HR
1.6 3.2 4.8 6.4 8.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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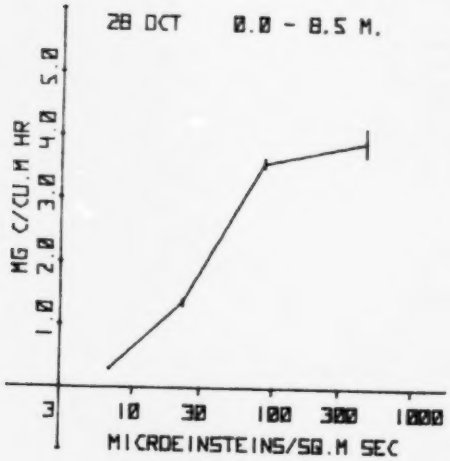
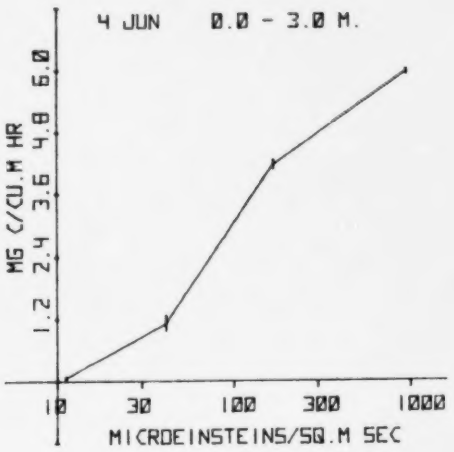
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


28 OCT 0.0 - 8.5 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 302 N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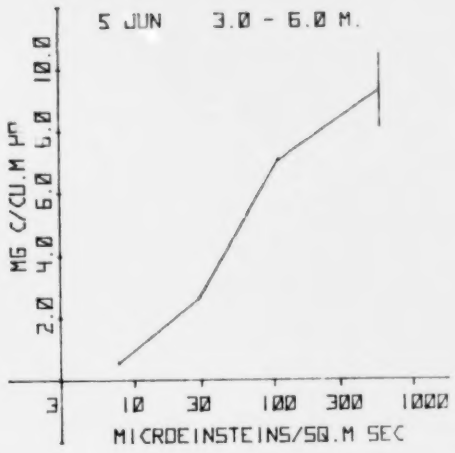
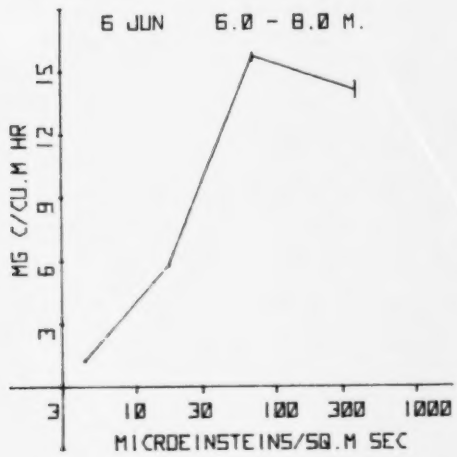
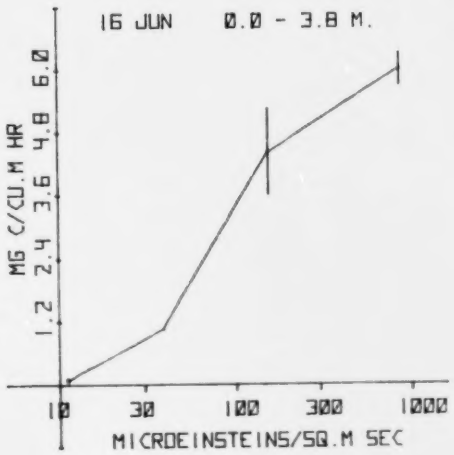
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
3 10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC


5 JUN 3.0 - 6.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC


6 JUN 6.0 - 8.0 M.
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC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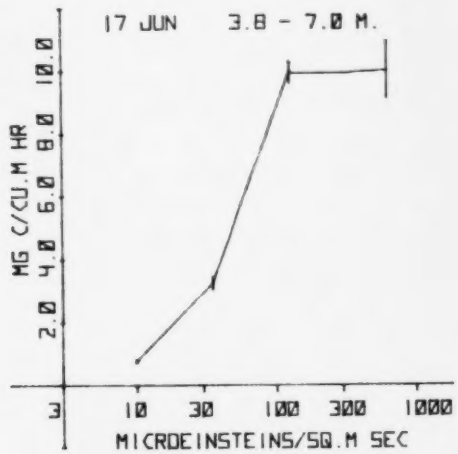
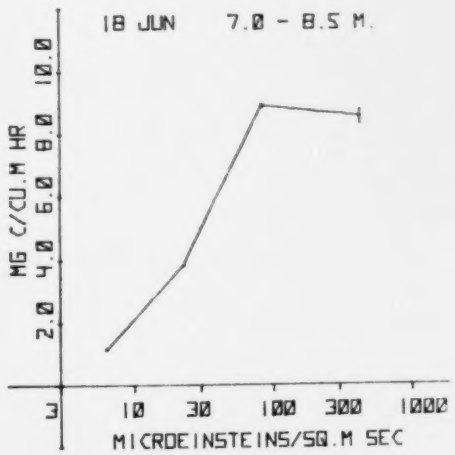
MICRDEINSTEINS/SQ.M SEC


17 JUN 3.8 - 7.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
3 10 30 100 300 1000
MICRDEINSTEINS/SQ.M SEC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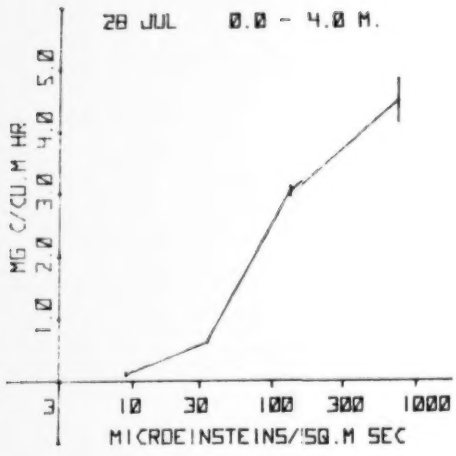
MICRDEINSTEINS/SQ.M SEC

LAKE 302 N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MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
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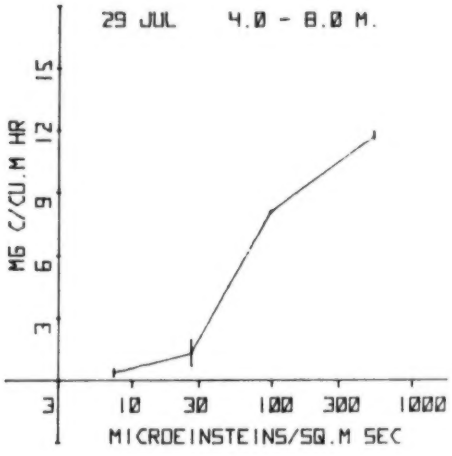
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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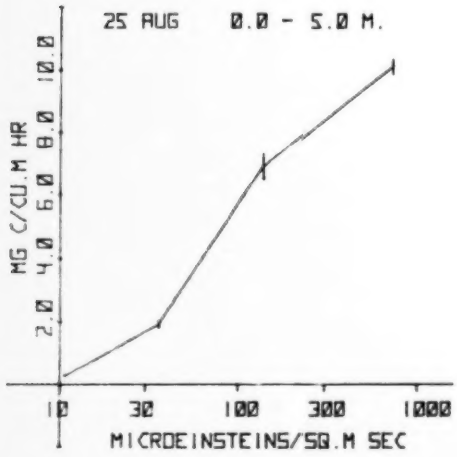
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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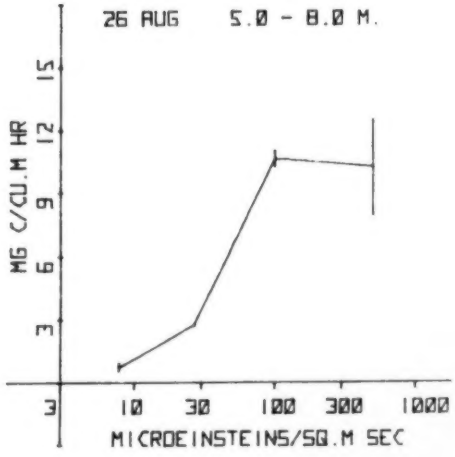
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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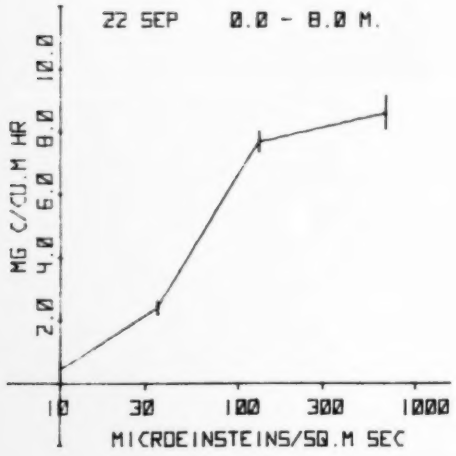
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MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
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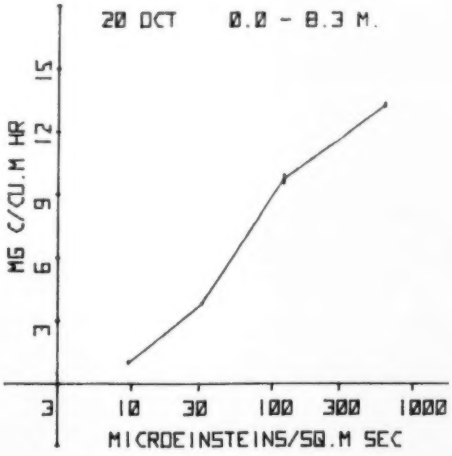
MICROEINSTEINS/SQ.M SEC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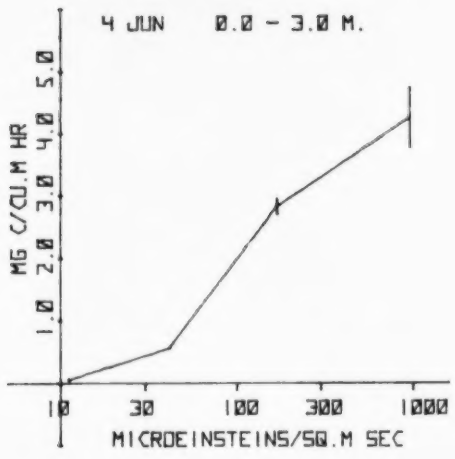
MICROEINSTEINS/SQ.M SEC

LAKE 302 S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MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
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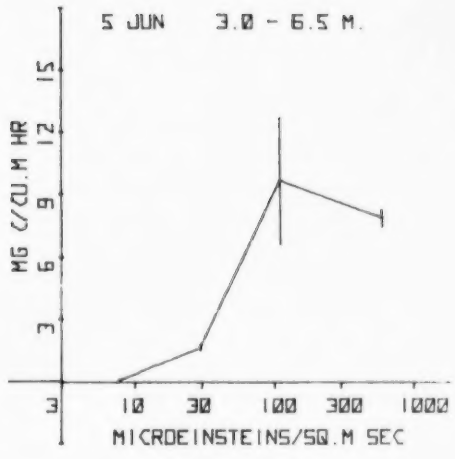
MICROEINSTEINS/SQ.M SEC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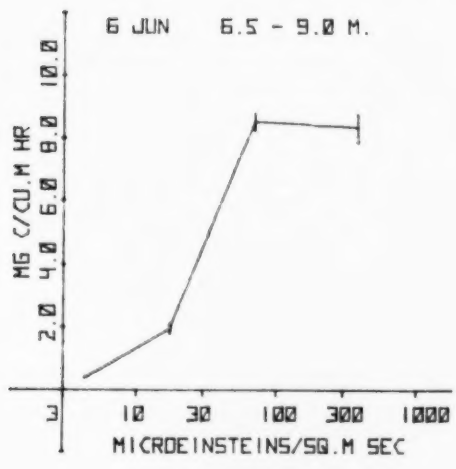
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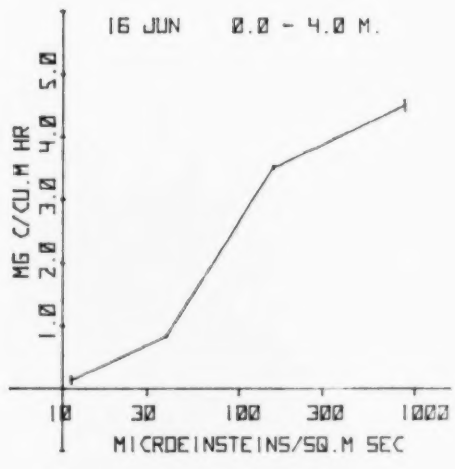
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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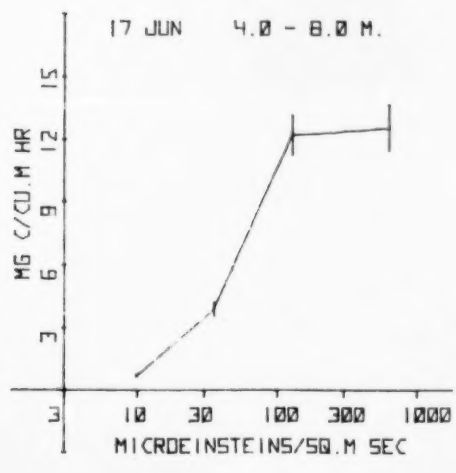
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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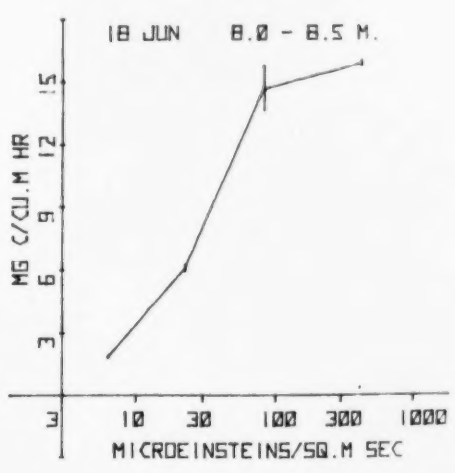
MICROEINSTEINS/SQ.M SEC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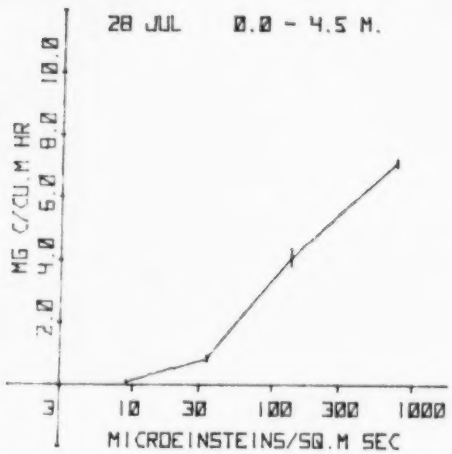
MICROEINSTEINS/SQ.M SEC

LAKE 302 S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MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
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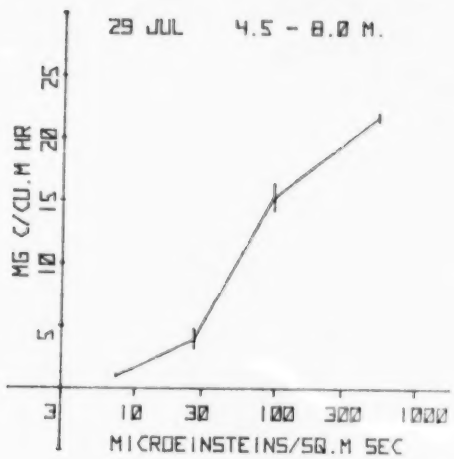
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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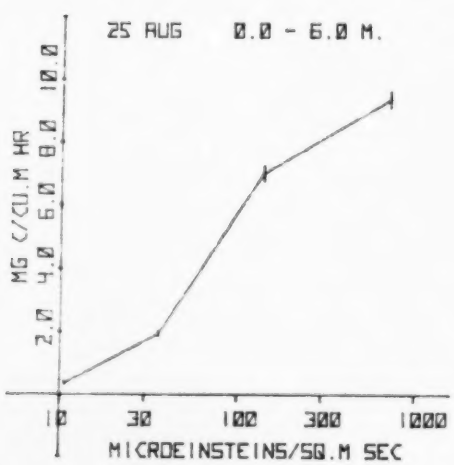
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
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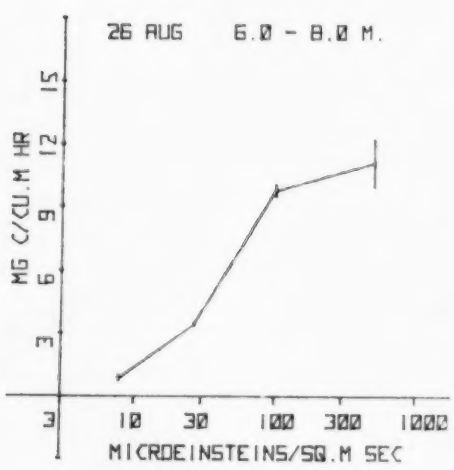
MICROEINSTEINS/SQ.M SEC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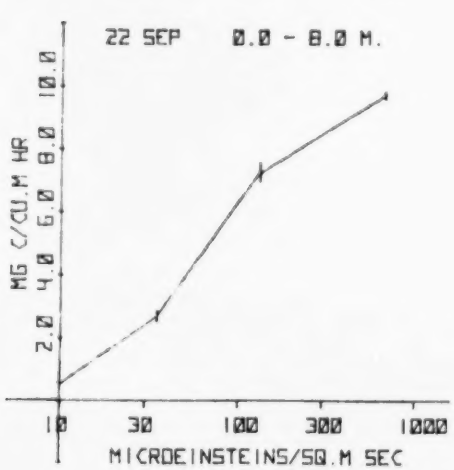
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


22 SEP 0.0 - 8.0 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
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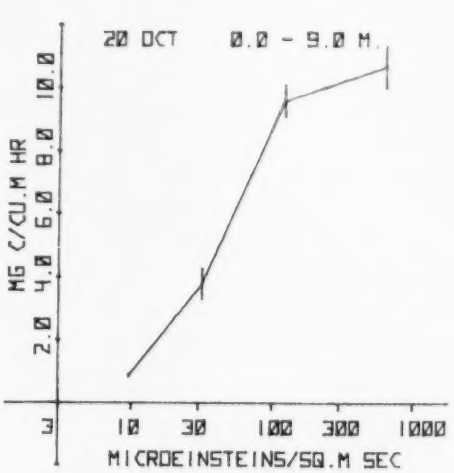
MICROEINSTEINS/SQ.M SEC


20 OCT 0.0 - 9.0 M.
MG C/CU.M HR
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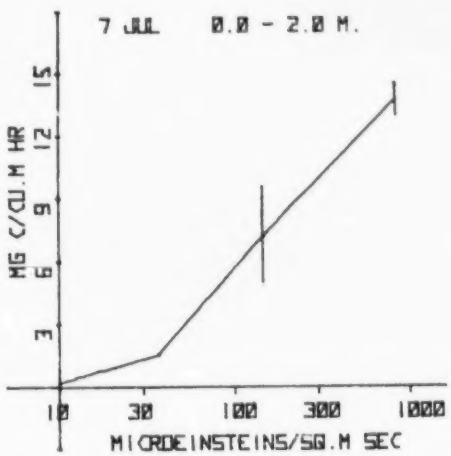
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

LAKE 304


7 JUL 0.0 - 2.0 M.
MG C/CU.M HR
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6
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15
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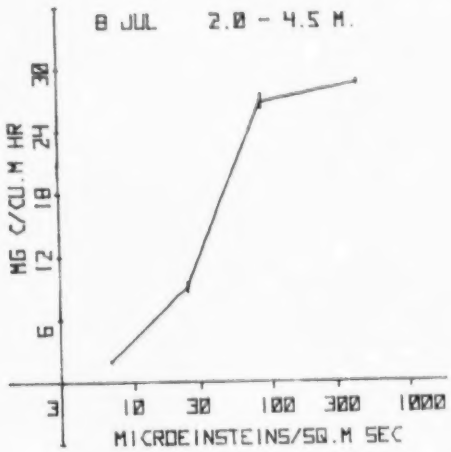
300
1000
MICROEINSTEINS/SQ.M SEC


8 JUL 2.0 - 4.5 M.
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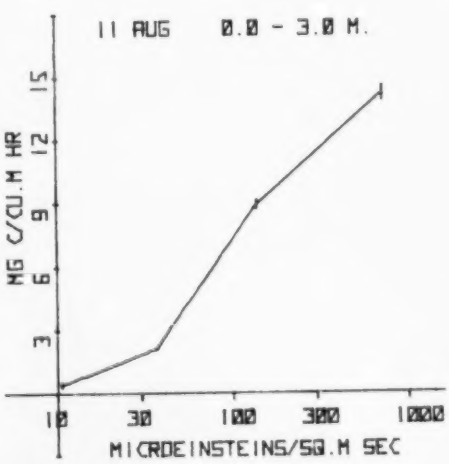
1000
MICROEINSTEINS/SQ.M SEC


11 AUG 0.0 - 3.0 M.
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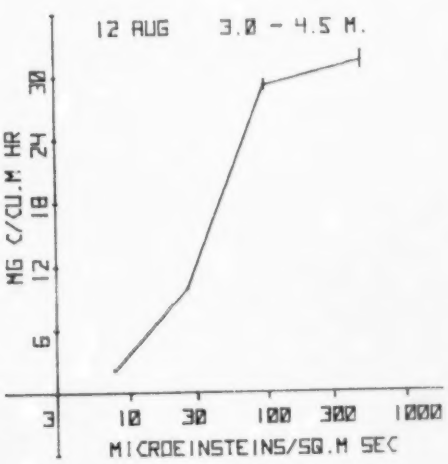
300
1000
MICROEINSTEINS/SQ.M SEC


12 AUG 3.0 - 4.5 M.
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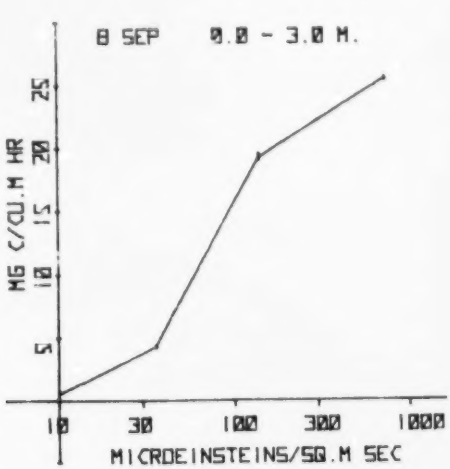
300
1000
MICROEINSTEINS/SQ.M SEC


8 SEP 0.0 - 3.0 M.
MG C/CU.M HR
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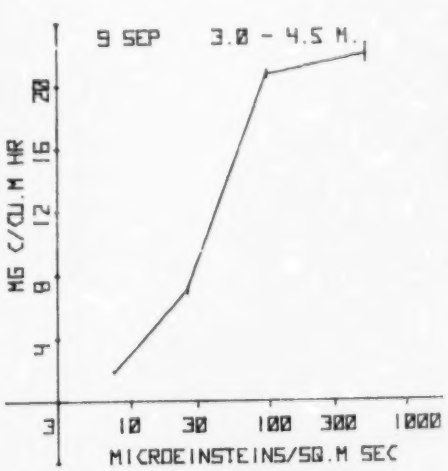
100
300
1000
MICROEINSTEINS/SQ.M SEC


9 SEP 3.0 - 4.5 M.
MG C/CU.M HR
4
8
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16
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10
30
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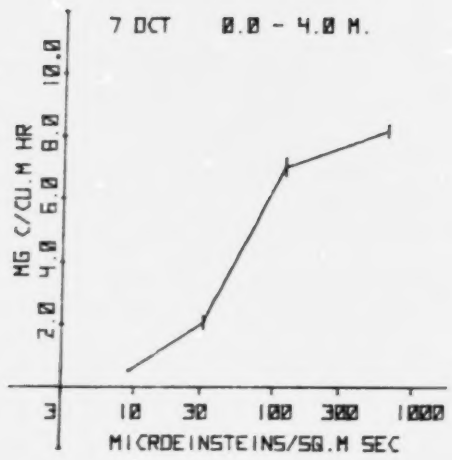
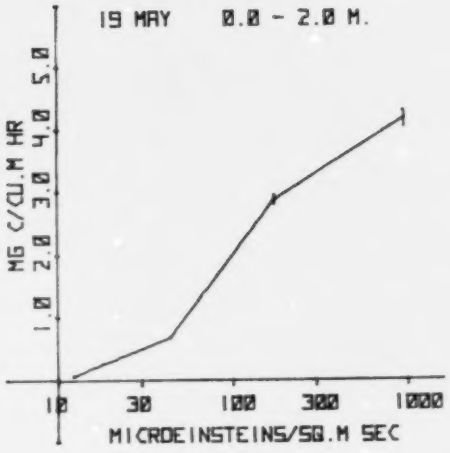
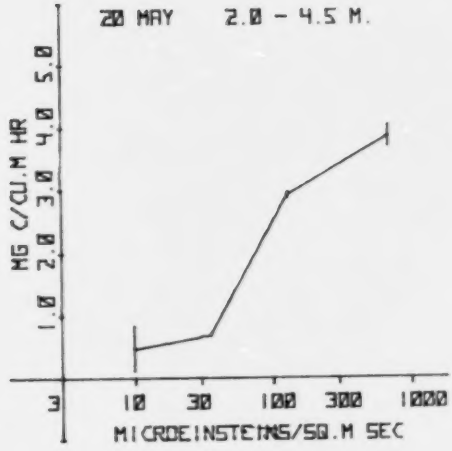
300
1000
MICROEINSTEINS/SQ.M SEC

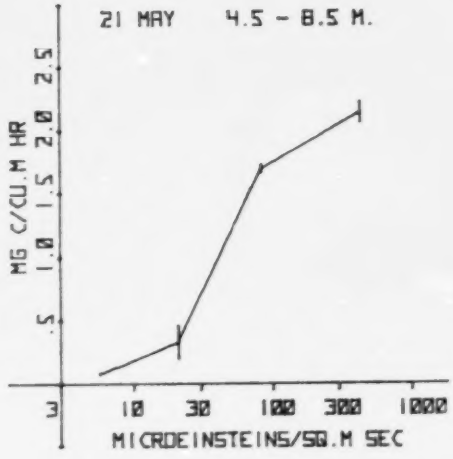
LAKE 304

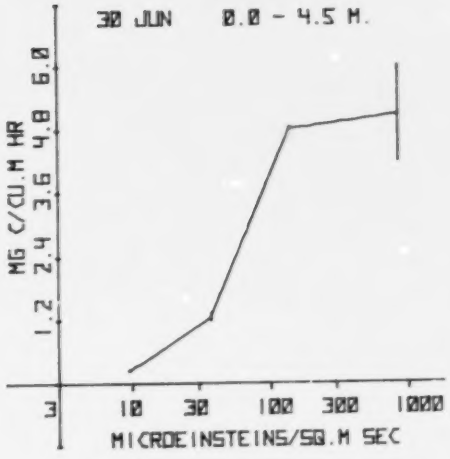

7 OCT 0.0 - 4.0 M.
MG C/CU.M HR
2.0
4.0
6.0
8.0
10.0
3
10
30
100
300
1000
MICROEINSTEINS/SQ.M SEC

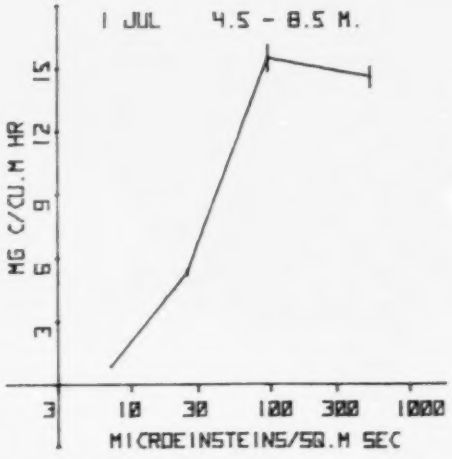
LAKE 382


19 MAY 0.0 - 2.0 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


20 MAY 2.0 - 4.5 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


21 MAY 4.5 - 8.5 M.
MG C/CU.M HR
.5 1.0 1.5 2.0 2.5
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


30 JUN 0.0 - 4.5 M.
MG C/CU.M HR
1.2 2.4 3.6 4.8 6.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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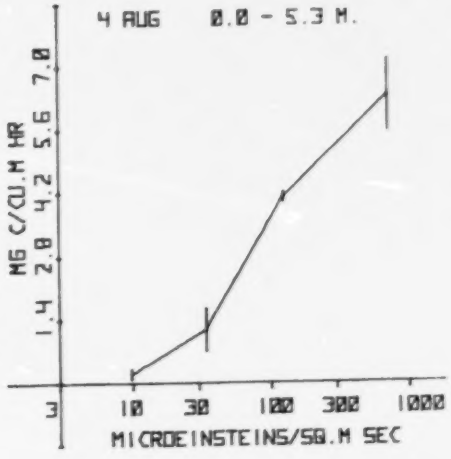
MG C/CU.M HR
3 6 9 12 15
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC


4 AUG 0.0 - 5.3 M.
MG C/CU.M HR
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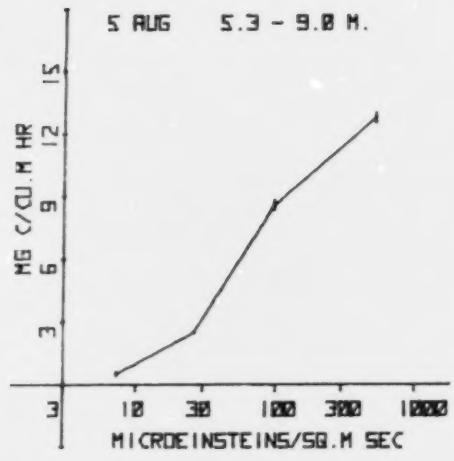
MICROEINSTEINS/SQ.M SEC

LAKE 382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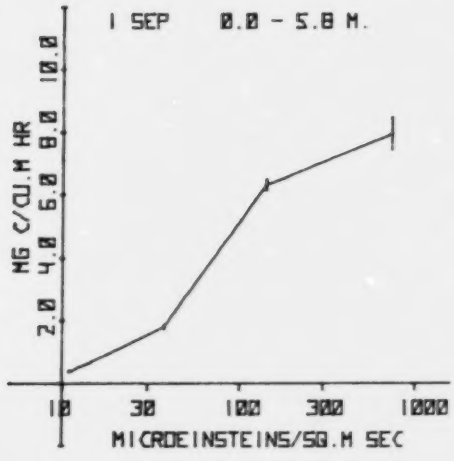
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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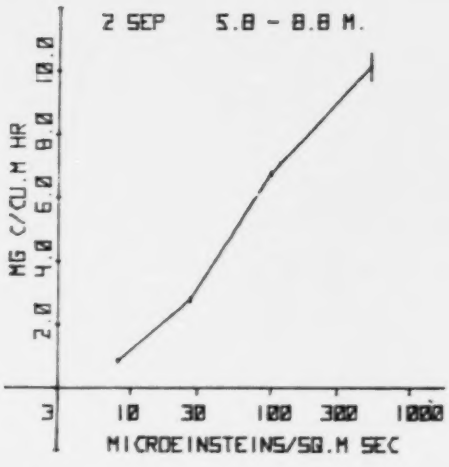
MICROEINSTEINS/SQ.M SEC


2 SEP 5.8 - 8.8 M.
MG C/CU.M HR
2.0 4.0 6.0 8.0 10.0
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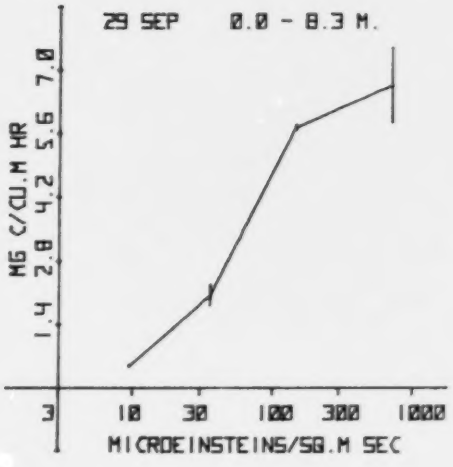
MICROEINSTEINS/SQ.M SEC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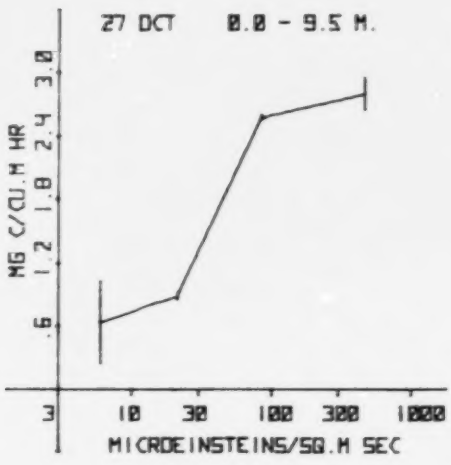
MICROEINSTEINS/SQ.M SEC


27 OCT 0.0 - 9.5 M.
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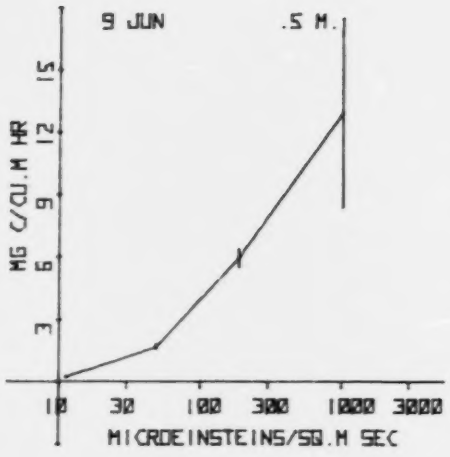
MICROEINSTEINS/SQ.M SEC

LAKE 661


9 JUN
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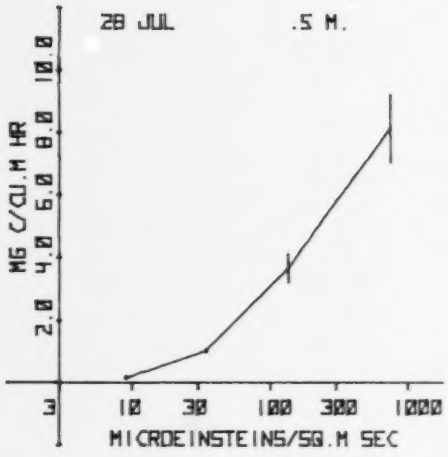
MICROEINSTEINS/SQ.M SEC


28 JUL
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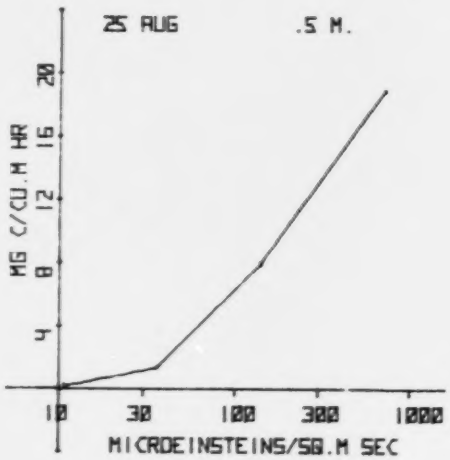
1000
MICROEINSTEINS/SQ.M SEC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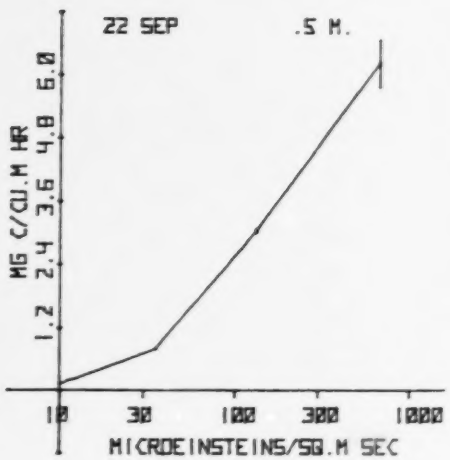
MICROEINSTEINS/SQ.M SEC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1000
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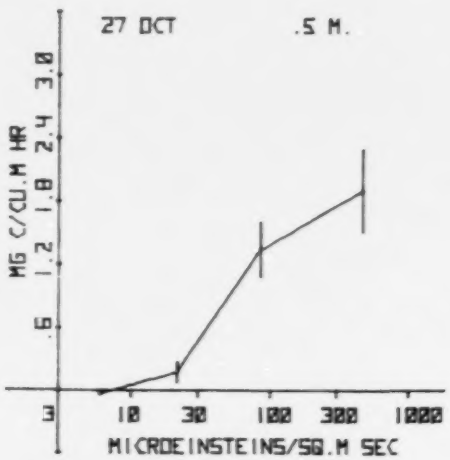
27 OCT
.5 M.
MG C/CU.M HR
.6
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1.8
2.4
3.0
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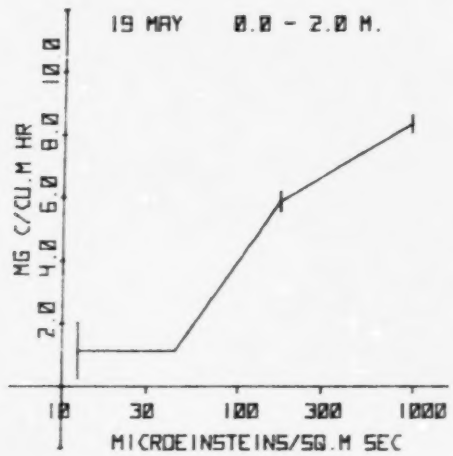
300
1000
MICROEINSTEINS/SQ.M SEC

LAKE 382 BAY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MG C/CU.M HR
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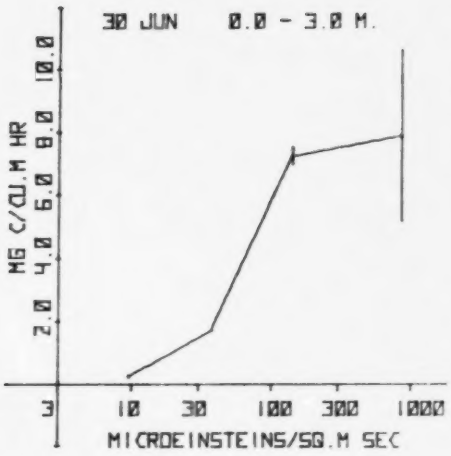
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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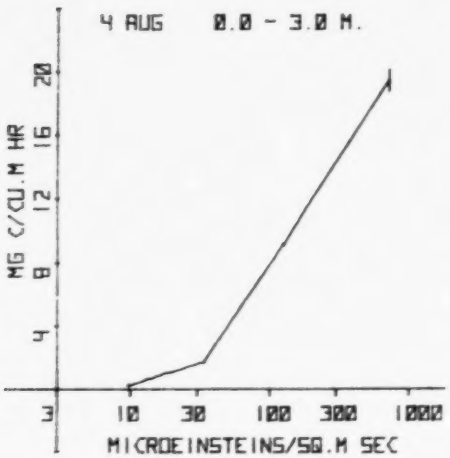
MICROEINSTEINS/SQ.M SEC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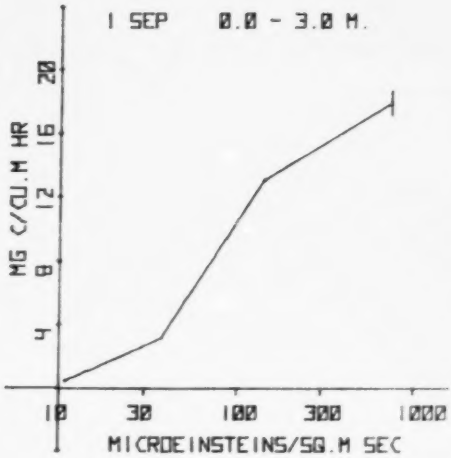
MICROEINSTEINS/SQ.M SEC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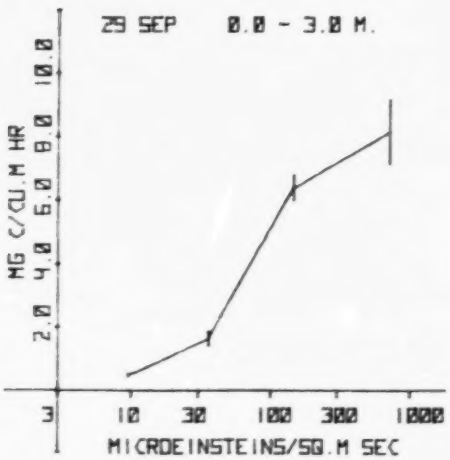
MICROEINSTEINS/SQ.M SEC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MG C/CU.M HR
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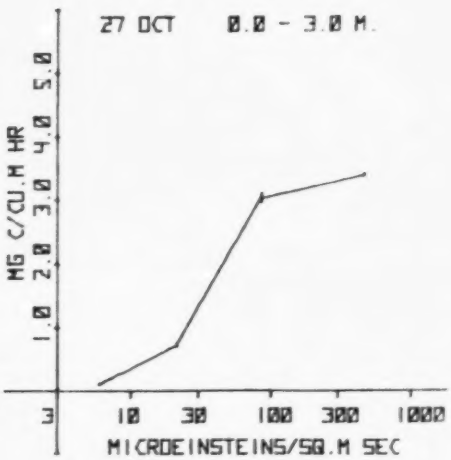
MICROEINSTEINS/SQ.M SEC


27 OCT 0.0 - 3.0 M.
MG C/CU.M HR
1.0 2.0 3.0 4.0 5.0
3 10 30 100 300 1000
MICROEINSTEINS/SQ.M SEC

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